

F0. Introduction

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F0.1

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**(F0.1) Give a general description of and introduction to your organization.**

Centerra Gold (“Centerra”) is a Canadian-based gold mining company engaged in operating, developing, acquiring, and exploring gold properties in North America, Asia, and other markets worldwide and is one of the largest Western-based gold producers in Central Asia. The Company operates two flagship assets, the Mount Milligan Mine in British Columbia, Canada, and the Kumtor Mine in the Kyrgyz Republic and through 2019, continued construction and commissioning of its next gold mine, the Öksüt Gold Mine, in Turkey. The Öksüt mine achieved commercial production as of May 31, 2020. In 2019, Centerra produced 783,308 ounces of gold and 71.1 million pounds of copper.

We are committed to protecting the natural environment and minimizing adverse impacts caused by our operations or activities. Each site’s environmental focus areas are determined by a variety of factors including:

- The results of our environmental impact assessments (EIAs);
- Environmental requirements set out by current and former financiers like the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC);
- Internal identification of Significant Environmental Aspects (SEAs) that are required to meet our regulatory compliance and environmental performance objectives;
- International standards and frameworks Centerra has adopted, including the World Gold Council’s *Responsible Gold Mining Principles*; and,
- Standards we broadly seek alignment against including those set-out by the International Council on Mining and Metals (ICMM).

Centerra’s shares trade on the Toronto Stock Exchange (TSX) under the symbol CG. The Company is headquartered in Toronto, Ontario, Canada.

F0.2

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**(F0.2) State the start and end date of the year for which you are reporting data.**

	Start Date	End Date
Reporting year	January 1 2019	December 31 2019

F0.3

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**(F0.3) Select the currency used for all financial information disclosed throughout your response.**

USD

F-MM0.6/F-CO0.6

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**(F-MM0.6/F-CO0.6) Select the option that best describes the reporting boundary for which biodiversity-related issues are being reported?**

Companies, entities or groups over which operational control is exercised

F-MM0.7/F-CO0.7

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**(F-MM0.7/F-CO0.7) Within your reporting boundary, are there any geographical areas, business units or mining projects excluded from your disclosure?**

Yes

F-MM0.7a/F-CO0.7a

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**(F-MM0.7a/F-CO0.7a) Please report your exclusions and describe their potential for biodiversity-related risk.**

Exclusion	Description of exclusion	Potential for biodiversity-related risk	Please explain
Other, please specify (Development projects)	Centerra's development projects (namely, the Kemess Underground Project and Greenstone-Hardrock Project) are excluded from this disclosure.	Potential for biodiversity-related risks evaluated, but not disclosing to CDP	For the 2019 Disclosure, Centerra will be reporting only on its two operating mines and its construction project, as these reflect the Company's significant operations and areas of impact.
Business unit(s)	Centerra's molybdenum unit (namely, the Thompson Creek Mine, Endako Mine and Langeloth Metallurgical Facility) are excluded from this disclosure as both mines are currently in care and maintenance.	Potential for biodiversity-related risks evaluated, but not disclosing to CDP	For the 2019 Disclosure, Centerra will be reporting only on its two operating mines and its construction project, as these reflect the Company's significant operations and areas of impact.

**F9 Current state**

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**F-MM9.1/F-CO9.1**

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**(F-MM9.1/F-CO9.1) Provide details on the mining projects covered by this disclosure, by specifying your project(s) type, location and mining method(s) used.**

**Mining project ID**

Project 1

**Name**

Kumtor Gold Mine

**Share (%)**

100

**Country/Area**

Kyrgyzstan

**Latitude**

**Longitude**

**Project stage**

Production

**Mining method**

Open-cut

**Raw material(s)**

Gold

**Year extraction started/is planned to start**

1997

**Year of closure**

2026

**Description of project**

The Kumtor Mine is in the Kyrgyz Republic, about 350 kilometers southeast of the capital Bishkek and about 60 kilometers north of the border with the Peoples Republic of China. It is at an altitude of 4,000 meters above sea level in a partially glaciated permafrost zone in the Central Tien Shan Mountains. It is one of the largest gold mines operated in Central Asia by a Western-based company, having produced more than 12.6 million ounces of gold between 1997 and the end of 2019. The total amount of proven and probable gold reserves at the Kumtor mine as of December 31, 2018, is 4 million ounces (447,562 kt at 0.3 g/t). Kumtor considers responsible environmental management an important part of its business and spends approximately \$7 million USD per year on environmental assessment and management. This includes maintaining a department of nearly 25 dedicated full-time environmental staff, and on-site and regional monitoring of water, air, biodiversity, soils and sediments, radiation, and waste. Kumtor attaches great importance to conservation of the region's biodiversity and has worked with stakeholders concerned about conservation since the start of operations, including contributing to the creation of the Sarychat-Ertash Nature Reserve. The current mine plan indicates that operations will cease in 2026, however Kumtor's exploration program aims to extend the life of the mine.

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**Mining project ID**

Project 2

**Name**

Mount Milligan Mine

**Share (%)**

100

**Country/Area**

Canada

**Latitude**

**Longitude**

**Project stage**

Production

**Mining method**

Open-cut

**Raw material(s)**

Copper  
Gold

**Year extraction started/is planned to start**

2014

**Year of closure**

2029

**Description of project**

Mount Milligan is located approximately 150 kilometers northwest of Prince George in central British Columbia, Canada. The Mount Milligan mine is a conventional truck-shovel open-pit copper and gold mine and concentrator with a 60,000 tpd capacity copper flotation processing plant. Mount Milligan has 959 million pounds of copper in proven and probable reserves and 2.4 million ounces of gold in proven and probable reserves. Mount Milligan considers responsible environmental management an important part of its business and spends approximately \$1.83 million USD per year on environmental assessment and management. Our goal is to have no net loss of wildlife and fish and aquatic resources habitat at Mount Milligan. In addition, our end land use objectives are to restore the area to land that is capable of supporting wildlife, recreation, and traditional uses by First Nations. Future end-land use planning studies will guide the direction of the implementation of the closure plan. The Mount Milligan site is located in central British Columbia, within the Montane Cordillera terrestrial ecozone, in a biodiversity-rich region and in close proximity to Indigenous peoples and First Nations' communities. Centerra and the Mount Milligan mine site collaborate with Nak'azdli, McLeod Lake Indian Band, Takla, West Moberly and Halfway River First Nations and other Indigenous peoples – respecting their rights, culture, way of life, and their traditional knowledge – to develop effective management of the environmental effects from the operations. Mount Milligan has an estimated mine life of 9 years.

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**Mining project ID**

Project 3

**Name**

Öksüt Mine

**Share (%)**

100

**Country/Area**

Turkey

**Latitude**

**Longitude**

**Project stage**

Development

**Mining method**

Open-cut

**Raw material(s)**

Gold

**Year extraction started/is planned to start**

2020

**Year of closure**

2028

**Description of project**

The Öksüt Mine is located in the Develi district, located 45km south of Kayseri province and 290km southeast of Turkey's capital, Ankara in Central Anatolia. Öksüt is planned as a conventional truck and shovel open pit heap leach mining operation with a stacking rate of 11,000 tonnes per day. The initial eight-year mine life is expected to process approximately 1.2 million contained ounces of gold from two open pits, the Keltepe pit and the smaller Güneytepe pit. After just 22 months of construction, the first gold pour occurred on January 31, 2020. In 2016, Centerra announced that it had secured US \$75 million in senior secured project financing loan from the European Bank for Reconstruction and Development (EBRD). As per the requirements of the loan, Öksüt developed a formalized and participatory environmental and social impact assessment (ESIA). The ESIA builds upon an already approved local EIA and includes a suite of management and monitoring plans. Key impacts and risks considered include land acquisition and impacts on land users and livelihoods, impacts to biodiversity, water use, cyanide risks, impacts on surface and groundwater, emissions including dust, noise, worker and community health and safety risks, labour and contractor issues and site closure and rehabilitation planning. At Öksüt, we are committed to achieving net gains for critical habitat (CH) and no net loss for priority biodiversity features (PBF).

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F-MM9.2/F-CO9.2

(F-MM9.2/F-CO9.2) Can you disclose the mining project area and the area of land disturbed for each of your mining projects?

	Disclosing mining project area and area of land disturbed?	Comment
Row 1	Yes	

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F-MM9.2a/F-CO9.2a

(F-MM9.2a/F-CO9.2a) Provide details on the mining project area and the area of land disturbed for each of your mining projects.

**Mining project ID**

Project 1

**Total area of owned land/lease/concession (hectares)**

26400.8

**Total area disturbed to date (hectares)**

1229.85

**Area disturbed in the reporting year (hectares)**

26.35

**Type(s) of habitat disturbed in the reporting year**

Natural habitat

**Comment**

In the 2019 conceptual closure plan, Kumtor has identified that 816ha will be reclaimed upon mine closure.

**Mining project ID**

Project 2

**Total area of owned land/lease/concession (hectares)**

51078.3

**Total area disturbed to date (hectares)**

1856.94

**Area disturbed in the reporting year (hectares)**

292.66

**Type(s) of habitat disturbed in the reporting year**

Natural habitat

**Comment**

In 2019, 36 hectares were reclaimed, making the project's total footprint 1,857 hectares.

**Mining project ID**

Project 3

**Total area of owned land/lease/concession (hectares)**

3995.8

**Total area disturbed to date (hectares)**

348.18

**Area disturbed in the reporting year (hectares)**

148.12

**Type(s) of habitat disturbed in the reporting year**

Natural habitat

**Comment**

In 2019, the Öksüt mine was in construction and there was no opportunity yet for reclamation.

**F-MM9.3/F-CO9.3**

(F-MM9.3/F-CO9.3) Are any of your mining projects located in or near legally protected and internationally recognized areas?

	Are any of your projects in or near?	Comment
Legally protected area(s)	Yes	Project 1: The Sarychat-Ertash Nature Reserve is in the vicinity of the Kumtor Mine concession. Project 3: Öksüt intersects with the Sultan Sazlıgi Wetland, a national park.
UNESCO World Heritage sites	No	Our company policy prohibits exploration or mining in UNESCO World Heritage sites.
UNESCO Biosphere Reserves	No	
Ramsar sites	Yes	Project 3: Öksüt uses two powerlines that intersect the Sultan Sazlıgi National Park and the Erciyes Mountain Key Biodiversity Area.
Key Biodiversity Area(s)	Yes	Project 3: At Öksüt, the Erciyes Dagı (Mountain) is internationally recognized as an Important Plant Area (IPA) and a Key Biodiversity Area (KBA). In addition, the Sultan Sazlıgi Wetland is also internationally recognized also as Important Bird Area (IBA) and Important Plant Area (IPA).

**F-MM9.3a/F-CO9.3a**

**(F-MM9.3a/F-CO9.3a) Provide details on mining projects that are in or near legally protected and internationally recognized areas.**

**Mining project ID**

Project 1

**Type of legally protected/ internationally recognized area**

Legally protected area

**Protected area category (IUCN classification)**

Category Ia-III

**Name of area**

Sarychat-Ertash Nature Reserve

**Proximity**

Adjacent

**Area of overlap (hectares)**

<Not Applicable>

**Please explain**

Kumtor mine is located in the vicinity to the Sarychat-Ertash Nature Reserve. The Reserve is a strictly protected Zapovednik ("protected wilderness"). The Reserve, established in 1995 with Kumtor's collaboration, was created to protect and conserve the local ecosystems, flora, and fauna. The Reserve covers 72,080 hectares. Since 1995, we have maintained a strict no-hunting policy in our permitted area which acts as a barrier to poachers. Through this initiative, the number of argalis (mountain sheep), a near-threatened species, at the Reserve has increased from 750 head to 2,500 making this the largest population in Kyrgyzstan. Given that the Sarychat-Ertash State reserve is located in the vicinity of the mine site, regular monitoring of air is conducted in the northeastern part of the concession area and in the northwestern part of the reserve. Kumtor has supported a number of initiatives at the Reserve including the studies of mammals and vertebrate mammals, glacier and water management, funding and administration base, funding for employee guest houses, and field apparel.

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**Mining project ID**

Project 3

**Type of legally protected/ internationally recognized area**

Legally protected area

**Protected area category (IUCN classification)**

Category Ia-III

**Name of area**

Sultan Sazlıği Wetland

**Proximity**

Overlap

**Area of overlap (hectares)**

1599.84

**Please explain**

The Sultan Sazlıği Wetland is an important area for birds, and it is located in the junction of two main bird migration routes through Europe, Asia, and Africa. The site is known to provide 301 bird species with feeding, breeding, and staging habitats. A powerline was constructed for Öksüt's operation that intersects the Wetland. The physical footprint of the powerline is located within the periphery of the National Park ("the buffer zone") and outside the Ramsar area, in an area that includes villages and other infrastructure and as such, sensitive species like rare or threatened taxa and congregating and nesting birds are less likely to be found in these areas. Nonetheless, to minimize impacts, Öksüt has installed bird fly diverters to the entire powerline length, installed alternating flight diverters, and large spirals with colours at a frequency of at least one of each every 10- 20m.

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**Mining project ID**

Project 3

**Type of legally protected/ internationally recognized area**

Key Biodiversity Area

**Protected area category (IUCN classification)**

<Not Applicable>

**Name of area**

Erciyes Dagı (Mountain)

**Proximity**

Overlap

**Area of overlap (hectares)**

1637.16

**Please explain**

A powerline was constructed for Öksüt's operation that intersects the Erciyes Dagı. The powerline crosses the southern and lower slopes of this Mountain region and the two areas overlap for a total of 1637.16 ha. These areas include natural, semi-natural and modified habitats almost in equal parts.

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**F-MM9.4/F-CO9.4**

**(F-MM9.4/F-CO9.4) Are there artisanal and small-scale mining (ASM) operations active in your mining concessions or in their area of influence?**

No

F-MM9.5/F-CO9.5

(F-MM9.5/F-CO9.5) Have biodiversity-related issues led to detrimental impact(s) on your business in the reporting year?

	Biodiversity-related issues led to detrimental impacts on the business?	Comment
Row 1	No	

F-MM9.6/F-CO9.6

(F-MM9.6/F-CO9.6) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for violation of biodiversity-related regulation?

	Any penalties for violation of biodiversity-related regulation?	Comment
Row 1	Yes, but none considered significant	A financially substantive or significant fine/enforcement order/penalty did not occur the reporting year for Centerra. Centerra defines 'substantive strategic or financial impact' as any financial (e.g. revenue or cost variance to budget) and/or operating impacts (e.g. shutdowns or impacts to production) to employee health and safety, the environment, local stakeholder relations and reputation, legal and regulatory compliance that could adversely affect the Company's business operations, prospects, financial condition, results of operations, or cash flows.

F10 Procedures

F-MM10.1/F-CO10.1

(F-MM10.1/F-CO10.1) Have biodiversity impacts and risks of your mining projects been assessed before the project development stage?

	Biodiversity impacts and risks assessed before the project development stage?	Please explain
Row 1	Yes, in all cases	Across all of our operating sites, an environmental impact assessment (EIA) is completed during the permitting phase of the project. The EIA is completed in accordance with national legislation and in certain cases, may be further supplemented by international standards. At Kumtor, the initial Environmental Assessment (1993/1994) was completed in line with the World Bank Directive 4.1. Kumtor's most recent version of its Environmental Assessment is aligned with the Kyrgyz Republic's legislation. At Öksüt, an Environmental and Social Impact Assessment (ESIA) was completed, assessing the biodiversity impacts and risks of the mining project. The ESIA was completed according to Turkish legislation and then was supplemented with the requirements by the European Bank for Reconstruction and Development (EBRD) when project financing was established. Visit <a href="https://www.ebrd.com/work-with-us/projects/esia/centerra-turkey.html">https://www.ebrd.com/work-with-us/projects/esia/centerra-turkey.html</a> for the full ESIA. At Mount Milligan, an Environmental Impact Assessment was completed according to federal and provincial legislation.

F-MM10.1a/F-CO10.1a

(F-MM10.1a/F-CO10.1a) Select the options that best describe your procedures for identifying and assessing biodiversity-related impacts and risks.

**Mining project ID**

Project 1

**Type of assessment**

A limited or focused environmental and social assessment

**Impacts considered**

Direct impacts  
Indirect impacts  
Cumulative impacts

**Scope defined by**

Governmental agency requirements

**Methods and tools**

Desk-based research  
Field surveys  
Expert consultation  
Stakeholder consultation/analysis

**Aspects considered**

Threatened species  
Migratory species  
Endemic species

Protected areas  
Critical habitats  
Natural habitats  
Ecosystem services

**Baseline biodiversity data available?**

Please select

**Is the Environmental Impact Statement publicly available?**

No

**Please explain**

Kumtor's EIA was completed in 1994. The Environmental Impact Assessment is not publicly available, however Kumtor Gold Company has a Biodiversity Management Strategy and Plan published on its website, located here: [https://www.kumtor.kg/wp-content/uploads/2018/07/2017\\_REVISION\\_Kumtor\\_BD\\_Strategy\\_Eng.pdf](https://www.kumtor.kg/wp-content/uploads/2018/07/2017_REVISION_Kumtor_BD_Strategy_Eng.pdf)

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**Mining project ID**

Project 2

**Type of assessment**

A limited or focused environmental and social assessment

**Impacts considered**

Direct impacts  
Indirect impacts  
Cumulative impacts

**Scope defined by**

Governmental agency requirements

**Methods and tools**

Desk-based research  
Field surveys  
Expert consultation  
Stakeholder consultation/analysis

**Aspects considered**

Threatened species  
Migratory species  
Endemic species  
Natural habitats  
Ecosystem services

**Baseline biodiversity data available?**

Yes

**Is the Environmental Impact Statement publicly available?**

Yes

**Please explain**

Mount Milligan's Assessment Report, summarizing the Environmental Impact Assessment Report, is available here: <https://iaac-aeic.gc.ca/052/details-eng.cfm?pid=39778>. Mount Milligan's Annual Reclamation reports are available on the British Columbia government website, located here: <https://mines.nrs.gov.bc.ca/p/mount-milligan/docs>.

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**Mining project ID**

Project 3

**Type of assessment**

Full-scale environmental and social impact assessment

**Impacts considered**

Direct impacts  
Indirect impacts  
Cumulative impacts

**Scope defined by**

Governmental agency requirements  
Lender requirements  
Company own standards and/or policies

**Methods and tools**

Desk-based research  
Field surveys  
Expert consultation  
Stakeholder consultation/analysis

**Aspects considered**

Locational alternatives  
Threatened species  
Migratory species  
Endemic species  
Protected areas  
Critical habitats  
Natural habitats

**Baseline biodiversity data available?**

Yes

**Is the Environmental Impact Statement publicly available?**

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Yes

**Please explain**

Öksüt's Environmental and Social Impact Assessment is available to the public from the European Bank for Reconstruction and Development's website, located here: <https://www.ebrd.com/work-with-us/projects/esia/centerra-turkey.html>

F-MM10.2/F-CO10.2

(F-MM10.2/F-CO10.2) Does your organization undertake a corporate-level procedure to assess biodiversity-related risks to your business?

	Is there a procedure to assess biodiversity-related risks?	Comment
Row 1	Yes	On a quarterly basis, environmental issues, including biodiversity risks, are communicated to the Board by the VP, Security, Sustainability, and Environment. Site-specific environmental risks are assessed, and key risks are inputted into Centerra's Enterprise Risk Management program (ERM) and shared with the VP, Risk and Insurance, and Senior Management. The ERM program is overseen by the Board of Directors through the Risk Committee. Centerra's Corporate VP, Risk & Insurance is responsible for providing the requisite tools, guidance, oversight, and strategic direction for the ERM program. The VP, Risk & Insurance prepares and presents a quarterly report for the Risk Committee on the key strategic, operational, project, and exploration risks, as well as emerging risks. Biodiversity-related risks presented to the Board may include impacts and risks related to ecosystems and critical habitats. These impacts are presented in an ad hoc frequency to the Board when the need arises.

F-MM10.2a/F-CO10.2a

(F-MM10.2a/F-CO10.2a) Select the options that best describe your procedure for identifying and assessing biodiversity-related risks.

**Row 1**

**Risk assessment procedure**

Assessed as part of other company-wide risk assessment system

**Frequency of assessment**

Other, please specify

**How far into the future are risks considered?**

> 6 years

**Tools and methods used to identify and assess risks**

Internal company methods  
External consultants  
National specific tools and databases

**Please explain**

Centerra Gold's procedure for identifying and assessing biodiversity-related risks takes place at both a corporate level and on a site-level. The sites update their site risk assessments at least monthly and complete quarterly reporting as part of Centerra's Board Risk Committee reporting. Each site's activities and focus areas (or areas of potential risk) are determined by the: 1. Findings of third-party environmental and social impact assessments (ESIAs) or environmental impact assessments (EIAs), 2. Environmental requirements set out by our financiers like the European Bank for Reconstruction and Development (EBRD) and the International Finance Corporation (IFC); and, 3. Internal identification of Significant Environmental Aspects (SEAs) that are required to meet our legal compliance and environmental performance objectives. Key SEAs include: • Waste and hazardous materials • Biodiversity • Air quality • Water management • Energy and emissions • Mine closure and reclamation Once the key focus areas are identified, each site develops an environmental management system to manage these topics. Centerra has implemented an Enterprise Risk Management (ERM) program to ensure risk-informed decision making throughout the organization. The program is based on leading international risk management standards such as ISO 31000 and COSO as well as industry best practices. It employs both a bottom-up and top-down approach to identify and address risks from all sources that threaten the achievement of our objectives. Each operating site and project are responsible for identifying, assessing, treating, and monitoring risk. Efforts to mitigate risks are coordinated by appointed "Risk Champions" who facilitate the process to ensure consistency and continuity. In addition, we work to reduce our impact on the environment by adopting best available technologies economically achievable (BATEA), focusing on automation and proactive collaboration with key stakeholders and local and indigenous communities. Finally, in 2019, we introduced a company-wide governance process to strengthen our internal procedures related to permitting compliance and related environmental obligations.

F-MM10.2b/F-CO10.2b



**(F-MM10.2b/F-CO10.2b) Which of the following issues are considered in your organization's biodiversity-related risk assessment(s)?**

	Relevance & inclusion	Please explain
Deforestation	Relevant, always included	As mining is a high-footprint industry, impacts of deforestation and forest degradation are considered in a biodiversity-related risk assessment. Centerra's mining sites include a land reclamation program as part of the mining life cycle.
Legally protected areas	Relevant, always included	Two of Centerra's operating sites, Kumtor in Kyrgyz Republic and Öksüt, in Turkey, are within proximity of a legally protected area. As these areas intersect or are adjacent to our operations, the legally protected areas are considered in the biodiversity-related risk assessment, including flora and fauna directly, indirectly, and cumulative impacts.
Internationally recognized areas	Relevant, always included	One of Centerra's operating sites, Öksüt, in Turkey, is within proximity of an internationally recognized area. The powerline intersects with the Sultan Sazlığı National Park and the Erciyes Mountain Key Biodiversity Area. Approximately 10km (or 28 poles) are within the Buffer Zone of the Sultan Sazlığı National Park and outside the Ramsar area, therefore outside the most sensitive areas. As the mine is within close contact, the internationally recognized area is considered in the biodiversity-related risk assessment, including the flora and fauna directly, indirectly, and cumulatively impacted.
Threatened, migratory and endemic species	Relevant, always included	As part of the Environmental Impact Assessment and Biodiversity Action Plans, natural habitats, and their species – endemic, migratory, threatened, and endangered – are always included in all biodiversity-related risk assessments.
Ecosystem services	Relevant, sometimes included	The effect of mine operations on ecosystem services varies widely, depending on the regional site in question. Some sites, such as Kumtor, are quite remote (80 km from the nearest village) and there is limited scope for the operations to negatively impact ecosystem services. Ecosystem services are nonetheless considered in biodiversity-related risk assessments and methods to generate positive biodiversity benefits in the region are incorporated.
Regulation	Relevant, always included	Centerra's global operations comply with all regional / national regulations specific to the site and country of operation. Environmental standards, both governmental and international, are complied with at Centerra's sites. Centerra's board has also adopted its International Business Conduct Policy which is Centerra's anti-corruption policy.
Indigenous peoples	Relevant, always included	Centerra operates in British Columbia, Canada, which has Indigenous groups. Meaningful engagement and collaboration with Indigenous peoples are a core element of Centerra's operations. Incorporating traditional knowledge is vital to reducing Centerra's impact on the environment, and to mitigating future risks.
Local communities	Relevant, always included	Centerra has a responsibility to develop and maintain relationships with host communities and to create economic value in the countries and communities where we operate.
Other, please specify	Please select	

**F-MM10.2c/F-CO10.2c**

**(F-MM10.2c/F-CO10.2c) Which of the following stakeholders are considered in your organization's biodiversity-related risk assessments?**

	Relevance & inclusion	Please explain
Customers	Relevant, always included	There has been a global increased expectation on refineries to understand the conditions in which their purchased gold is mined. Through our commitment to the World Gold Council's Responsible Gold Mining Principles (RGMPS), we demonstrate to the downstream gold supply chain, that our gold is mined according to best environmental practices. Specifically, the RGMPS hold Centerra accountable to environmental stewardship, managing biodiversity, ensuring all wastes and tailings are in alignment with best practices, and using resources and land efficiently.
Employees	Relevant, always included	Mitigation strategies to manage potential effects to land use are in place at our sites. For example, there is a "no hunting or fishing" policy and prohibited use of recreational all-terrain vehicles for all employees and contractors while on company business or commuting to and from the mine at Mount Milligan Mine in British Columbia. Specific employees, with environmental-related accountabilities, are trained in project-approved environment plans, and held accountable to minimize negative impacts on soil, water, land, and air quality.
Investors	Relevant, always included	We engage frequently with the investor community to ensure that our ESG strategy meets investor expectations. Increasingly, investors are concerned with the risks and opportunities posed by biodiversity issues and seek disclosure from companies on how they are managing these risks. Our 2019 ESG reporting will be aligned with the Sustainability Accounting Standard Board (SASB) framework. This is the ESG reporting framework preferred by our institutional investors because it provides consistency and comparability in their investment analysis and focuses on material ESG factors.
Local communities	Relevant, always included	Centerra has a responsibility to develop and maintain relationships with host communities; two-way engagement and dialogue will build trust and foster genuine collaboration with local communities. Local communities also have a unique and knowledgeable perspective on the ecosystem services and species that provide their community with resources and its people with a strong livelihood. Stakeholder concerns that are considered include employment opportunities, environmental impacts of the mine, community support and donations, and effects on water resources. In alignment with Principle 7 from the World Gold Council's RGMPS, "Working with Communities", community group feedback helps Centerra to determine how biodiversity issues are viewed at each site, and what the area of focus should be.
Indigenous peoples	Relevant, always included	At our Mount Milligan mine, we align with Principle 7, "Working with Communities": consulting with communities, and engaging with Indigenous groups in a culturally respectful manner. We proactively seek to incorporate traditional ecological knowledge into our biodiversity action plans and risk assessments.
NGOs	Relevant, sometimes included	Conservation NGOs are considered in Centerra's stakeholder engagement activities. The environmental impacts of the mine are considered, as well as the mine's biodiversity strategy to mitigate risks and generate positive biodiversity gains, and the mine closure reclamation plan. For example, in the Kyrgyz Republic, biodiversity conservation academic groups and NGOs are important stakeholders. These include Fauna & Flora International, the Snow Leopard Trust, World Wide Fund for Nature, and Naturschutzbund Deutschland.
Regulators	Relevant, always included	The regulatory environment is a key consideration. Maintaining strict adherence to regulations is ongoing. Although each operating jurisdiction is unique, the areas usually considered are waste rock management, tailings dam management, impacts on glaciers/forests/lakes, floods, water sourcing, and mine closure. For example, at the Kumtor Mine, in the Kyrgyz Republic, the State Agency of Environmental Protection and Forestry is a key stakeholder. This agency includes a number of departments, including Natural Reserves and National Parks, Department of Hunting Control, and Regulation of Hunting Resources Population. Inspections at the mine site are carried out by the State Inspectorate for Environmental and Technical Safety.
Suppliers	Relevant, always included	As stated in Centerra's Supplier Code of Conduct, suppliers shall operate in an environmentally responsible and efficient manner to minimize adverse impacts on the environment and shall comply with all applicable environmental laws and relevant regulations.
Other stakeholders, please specify	Please select	

**F-MM10.3/F-CO10.3**

**(F-MM10.3/F-CO10.3) Do you adopt biodiversity action plans to manage your impacts on biodiversity?**

Yes

F-MM10.3a/F-CO10.3a

**(F-MM10.3a/F-CO10.3a) Describe your criteria for defining which sites are required to produce biodiversity action plans.**

Each site varies in the criteria required to produce biodiversity action plans. Within Centerra, the three main operational sites, Kumtor, Öksüt and Mount Milligan, have slightly varied criteria. Kumtor and Öksüt have developed and maintain a biodiversity management plan which outlines their approach to managing biodiversity risks, including a governance framework, monitoring procedures and KPIs that performance is measured against. Mount Milligan has stand-alone topic specific plans that together make-up the main components of a comprehensive biodiversity plan, including wildlife management, fisheries management, cultural heritage plan, invasive plant management, landscape, soil and vegetation management and reclamation plan.

The criteria considerations are below:

- National legislation and governmental regulations are two criteria that determine if a site will have a biodiversity action plan. In BC, this means complying with the *Water Protection Act, Water Sustainability Act, Environmental Management Act, Fish Protection Act*. In the Kyrgyz Republic, Centerra complies with all regulations from environmental national legislation, such as *Kyrgyz Republic Law on Environmental Protection, Forest Code of the Kyrgyz Republic, Water Code of the Kyrgyz Republic, Land Code of the Kyrgyz Republic*. In Turkey, environmental legislation such as *Environmental Law No. 2872, Mines Law No. 3212, Forest Law No. 6831, Regulation on Environmental Impact Assessment*, are complied with.
- Sites that host migratory, threatened, endangered species will assess these species in its respective environmental impact assessment.
- Lender requirements: Lenders like the European Bank for Development and Reconstruction have comprehensive environmental requirements.
- International best practices and frameworks: Centerra aligns its operations and activities to international best practices, notably the International Council on Mining and Metals Mining Principles, and the World Gold Council's *Responsible Gold Mining Principles*. These principles require its members to fulfill requirements regarding Risk Management (ICMM Principle 4); Environmental Performance (ICMM Principle 6); Conservation of Biodiversity (ICMM Principle 7); Environmental Stewardship (RGMP Principle 8); and Biodiversity, Land Use and Mine Closure (RGMP Principle 9).
- Proximity to KBAs: Centerra recognizes land in proximity to ecological value as a criterium for a biodiversity action plan. For example, Centerra's Kumtor Mine site in the Kyrgyz Republic borders a nature reserve. The Sarychat-Ertash Nature Reserve is an important section of land for biodiversity. Being near this nature reserve is considered in the ESIA and any additional initiatives to protect biodiversity. In Turkey, the Öksüt Mine is within proximity to Ramsar sites, key biodiversity areas, etc. These areas host vulnerable, migratory, threatened, and/or endangered species; due to the presence of these populations, a biodiversity action plan has been developed and implemented.
- Site Infrastructure: Tailings Storage Facilities (TSF) qualify as a criterium for a biodiversity action plan and environmental/ecosystem monitoring. In order to protect the wildlife and native plant species surrounding the TSFs, a plan is developed and implemented.

Individual sites have different requirements and criteria with respect to developing a biodiversity action plan. Centerra Gold is working towards establishing company-wide best practices related to environment and biodiversity that hold all sites accountable to the same requirements.

F11 Impacts, risks and opportunities

F-MM11.1/F-CO11.1

**(F-MM11.1/F-CO11.1) Have any of your projects caused, or have the potential to cause, significant adverse impact(s) on biodiversity?**

	Any projects caused, or have the potential to cause, significant adverse impact(s) on biodiversity?	Comment
Row 1	Yes	

F-MM11.1a/F-CO11.1a

**(F-MM11.1a/F-CO11.1a) For your disclosed mining projects, provide details of the significant adverse impacts on biodiversity, with the respective response.**

**Mining project ID**

Project 1

**Type of impact**

Direct

**Impact**

Conversion and/or degradation of natural habitats (other than forests)

**Description of the impact**

This answer is for all projects covered under this disclosure. Direct plant mortality has occurred from site clearing, soil salvage and stockpiling activities, as well as dust generation, at all three operating sites. This is an expected outcome of mining activities. At Mount Milligan, of the five plant communities at risk within Mount Milligan's footprint, only one plant community is likely to be affected, the Slender sedge – Common hook-moss community. At Kumtor, there are 205 species of vascular plants, belonging to 33 families, of which 8 were noted to be endemic to the Tien Shan Mountains. At Öksüt, 397 taxa from 60 plant families were identified based on field surveys conducted in 2009 and 2015. Of the species identified 53 are considered endemic of Turkey; of these taxa 48 are widespread endemic and 5 are regional endemic.

**Consequence**

Please select

**Likelihood**

Please select

**Describe response**

Generally, across all our operating sites, specific mitigation measures are implemented to avoid the loss of any rare plant species. These relate to: 1. Monitoring and equipping the Environmental Teams with species-specific plant identification information; 2. Salvaging and relocating any rare plants. At Mount Milligan, effects to vegetation and plant communities created during construction and operations are predicted to be reversed for much of the mine site by reclamation activities during both progressive reclamation and closure, although the composition and structure of restored habitats will likely be substantially different from that which existed before mining. Further, to mitigate the effects on plant species traditionally used by First Nations, during Decommissioning and Closure, our reclamation will include replanting native plants, including those plant species used for traditional purposes by Aboriginal persons. At Mount Milligan, we collect native seeds with assistance from indigenous community members for future reclamation and closure efforts especially around riparian areas, as these can be important as a key habitat for many species of plants and animals. At Öksüt, on-site conservation of vulnerable flora species will be provided by setting aside specific fenced areas where soil and vegetation will be preserved, and access will not be permitted. In addition, vulnerable flora individuals directly impacted by the project will be identified and salvaged. The salvaged individuals will be temporarily grown in a greenhouse by an ecologist. To ensure dust during construction activities does not harm the vulnerable flora species, dust accumulation will be monitored in both areas characterized by vulnerable flora species on-site and within 100 m from the facilities. Monitoring has been completed monthly during construction. If excessive dust accumulation or stress signs are noticed, additional location specific mitigation measures will be applied (e.g. additional dust management measures, temporary dust screens, water spray to clean plants). At Kumtor, we collect native seeds for future reclamation and closure efforts especially around wetland areas, as these can be important as a key habitat for many species of plants and animals, both resident (including some endemic species of plants) and migratory.

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**Mining project ID**

Project 1

**Type of impact**

Indirect

**Impact**

Fragmentation of ecosystems

**Description of the impact**

This answer is for all projects covered under this disclosure. The presence of mine facilities and new linear infrastructure (including roads, electric power lines and fences) will cause habitat fragmentation for terrestrial species (fauna) within the study area. The level of fragmentation depends on the mobility and on the sensitivity of the species to anthropic disturbance.

**Consequence**

Please select

**Likelihood**

Please select

**Describe response**

Across all our operating sites, we apply the mitigation hierarchy. At the Öksüt, Kumtor, and Mount Milligan sites, avoidance measures have been considered particularly during the design of the facilities. Examples of such measures at specific sites include: • Minimising the footprint of individual facilities; • Minimising the length of internal roads; • Fencing the mining areas within the permitted area in order to reduce the risk of footprint creep. • Using existing external roads and disturbance corridors • A "no fishing and hunting" policy Minimization measures include: • The installation of culverts with a specific design conducive to use by reptiles, and in particular tortoises, under the access road in a sufficient number to minimize the effects of habitat fragmentation. • Locating power transmission line on or adjacent to existing roads or clear cuts and minimizing the construction of new access road corridors through the use of existing roads and access routes Rehabilitation/restoration measures may include the stripping and safe storage of fertile topsoil, to use for progressive restoration after the closure of the mine; and progressive restoration of areas cleared during construction, which aims to produce a stable vegetative cover. Residual effects will be monitored. Specifically, culverts will be regularly monitored (once every three months) to avoid any blockages or erosion that would make them unsuitable for target wildlife.

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**F-MM11.2/F-CO11.2**

**(F-MM11.2/F-CO11.2) Have you identified any biodiversity risks with the potential to have a substantive financial or strategic impact on your business?**

Yes

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**F-MM11.2a/F-CO11.2a**

**(F-MM11.2a/F-CO11.2a) How does your organization define substantive impact on your business?**

Centerra defines 'substantive strategic or financial impact' as any financial (e.g. revenue or cost variance to budget) and/or operating impacts (e.g. shutdowns or impacts to production) to employee health and safety, the environment, local stakeholder relations and reputation, legal and regulatory compliance that could adversely affect the Company's business operations, prospects, financial condition, results of operations, or cash flows.

**F-MM11.2b/F-CO11.2b**

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**(F-MM11.2b/F-CO11.2b) For your disclosed mining projects, provide details of risks identified with the potential to have a substantive financial or strategic impact on your business, and your response to those risks.**

**Type of risk**

Physical

**Primary risk driver**

Other physical driver, please specify (Cyanide-related biodiversity impacts)

**Primary potential impact**

Fines, penalties or enforcement orders

**Magnitude of the potential impact**

Please select

**Likelihood**

Please select

**Where does the risk driver occur?**

Selected mines, business units or geographies only

**Mining project ID**

Project 1

Project 3

**Company-specific description**

Our Kumtor and Öksüt mines use cyanide. Cyanide is a hazardous chemical and a spill could have short-term, direct impacts, or cumulative, long-term impacts on water and soil, vegetables and plants, fish populations, wildlife, human health, and the livestock that graze in the spill area. Cyanide is an extremely volatile and toxic chemical and could potentially fatally alter a human/animal's ability to use oxygen. Water and soils subject to a spill could accumulate cyanide concentrations to a level that is poisonous to animals that drink the water and plant species growing in the soil. Fish populations exposed to a cyanide spill could bioaccumulate or accumulate within fish. Birds relying on local water sources that have been subject to a spill could also be negatively or fatally impacted. Sensitive species could be very vulnerable to a cyanide spill in the area, depending on the severity, scope, and duration of the spill.

**Timeframe**

Current - up to 1 year

**Primary response to risk**

Implementation of environmental best practices in direct operations

**Description of response**

The Cyanide Code is recognized as international best practice and helps protect human health and reduce the potential for environmental impacts. Companies that become signatories to the Cyanide Code must have their operations audited by an independent third party every 3 years to demonstrate compliance. Kumtor integrates the Cyanide Code principles and standards of practice into its Health, Safety and Environmental Management Systems. Kumtor has a Cyanide Management Plan that meets the requirements of the International Cyanide Management Code (ICMC) that covers transport, storage, use and disposal of cyanide. Kumtor is certified by the ICMC for transportation of cyanide from the Balykchy Marshalling Yard to the mine site, with its current certification expiring three years from December 18, 2018. Öksüt is expected to use cyanide in its operations. In 2020, Öksüt is expected to complete a cyanide code gap analysis and begin working towards full certification with the ICMC.

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**Type of risk**

Physical

**Primary risk driver**

Other physical driver, please specify (Tailings-related biodiversity impacts)

**Primary potential impact**

Fines, penalties or enforcement orders

**Magnitude of the potential impact**

Please select

**Likelihood**

Please select

**Where does the risk driver occur?**

Selected mines, business units or geographies only

**Mining project ID**

Project 1

Project 2

**Company-specific description**

A tailings dam collapse would have significant impacts on the local biodiversity at both the Mount Milligan Mine site in BC, Canada and Kumtor Mine Site in Kyrgyzstan. The spread of tailings and hazardous waste into the local watershed could have significant downstream effects, immediately impacting mammals, fish, reptiles, birds, insects, infiltrate soils, and potentially affect the ecosystem as a whole. The pollution could impact sensitive species, migratory species and impact the populations of endangered or threatened species in the area. Water quality could be compromised throughout the area, and due to the extensive network of rivers and lakes, the downstream effects could be widespread.

**Timeframe**

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Current - up to 1 year

**Primary response to risk**

Implementation of environmental best practices in direct operations

**Description of response**

Centerra's Tailings Storage Facilities (TSFs) are managed to maintain structural performance and ensure worker, environmental and public safety. Centerra's TSFs, including the Centreline TSF at Mount Milligan, are designed in accordance with all applicable dam safety regulations and requirements. In addition, operation of the TSFs is informed by, and routinely checked against, guidance from the Canadian Dam Association and the International Commission on Large Dams. In light of the recent global events and our commitment to public and environmental safety, Centerra formed a multi-disciplinary TSF Steering Committee ("the Committee"). The global Committee meets quarterly and is comprised of: • Senior management from Risk & Insurance, Capital Projects & Technical Services, Sustainability and Environment, and Investor Relations; • General Managers and / or tailings engineers from sites; and, • Subject matter experts in areas such as water management. The Committee is mandated to: 1. Strengthen Centerra's internal and external tailings risk management procedures 2. Monitor the development of emerging regulatory requirements and international best practices. Centerra has initiated a project to implement a comprehensive risk management framework to capture and document the key components of risk management at its tailings facilities. Centerra is currently conducting initial baseline assessments for each site it owns or operates.

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**Type of risk**

Physical

**Primary risk driver**

Other physical driver, please specify (Cumulative effects of metals/leaching)

**Primary potential impact**

Other, please specify (Potential for long-term water treatment)

**Magnitude of the potential impact**

Please select

**Likelihood**

Please select

**Where does the risk driver occur?**

Selected mines, business units or geographies only

**Mining project ID**

Project 2

**Company-specific description**

Metal Leaching (ML), or Acid Rock Drainage (ARD) has the potential to occur at the Mount Milligan Mine site. ML/ARD occurs when sulphide minerals are exposed to oxygen and water in the absence of acid-neutralizing carbonate minerals. Oxidation of sulfides in tailings and waste rocks could have serious long-term environmental impacts. Sulfuric acid can 'leach' out heavy metals out of the rock, and these metals can contaminate nearby water sources and soils. This metal leaching can have significant cumulative effects, as the process can continue for years after the closure of a mine. More heavy metals in water and soil can degrade natural habitats for mammals, insects, reptiles, fish, microbes, etc. Contaminated water can be poisonous and/or lethal to fish living in contaminated waters, fish eggs hatched in waters, and insect larvae in water. Animals reliant on the water as a drinking source or as a habitat may also be negatively impacted.

**Timeframe**

>6 years

**Primary response to risk**

Implementation of environmental best practices in direct operations

**Description of response**

Mount Milligan has developed a comprehensive ML/ARD monitoring program over the life of mine (LOM). The program encompasses the interpretation of static and kinetic testing and characterization of waste rocks and tailings. The specific geochemical monitoring programs include: • Blast hole sampling; • Kinetic field tests; • Potentially acid generating (PAG) rock placed within the tailings storage facility (TSF); • Tailings; • In-pit post-blast waste; and • Waste rock placed within the downstream shell zone of the TSF embankment; The program collects further geochemical data related to the longer-term behaviour of the net acid generation potential of different waste materials. If the results are not environmentally acceptable, then the waste management plan will be adjusted accordingly to ensure that the proper acid generation control and prevention methods are used and the mine is operating in an environmentally compatible manner.

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**Type of risk**

Physical

**Primary risk driver**

Other physical driver, please specify (Water-related impacts)

**Primary potential impact**

Increased operating costs

**Magnitude of the potential impact**

Please select

**Likelihood**

Please select

**Where does the risk driver occur?**

Company-wide

**Mining project ID**

<Not Applicable>

**Company-specific description**

Acceptable surface water quality is critical to sustaining the health of wildlife and aquatic organisms, as well as humans. Protecting water quality is key during construction, operations and mine closure.

**Timeframe**

Current - up to 1 year

**Primary response to risk**

Implementation of environmental best practices in direct operations

#### Description of response

To protect water quality, all operating sites strive towards compliance with regulations and permits. At Kumtor, effluents are treated at Effluent Treatment Plants (ETP). The purpose of the ETP is to treat excess tailings water that accumulates in the TSF. The ETP is designed to reduce cyanide and metal concentrations in tailing pond effluent prior to release to the environment and ensures that discharge to the Kumtor River meets all water quality objectives. In addition, sewage wastewater is treated at the sewage treatment plant (STP). Mount Milligan is designed and permitted as a zero-discharge facility during operation, namely, the operation does not actively discharge process waters to the environment. The open pit water management program consists of surface water diversion ditches and horizontal drains drilled into pit walls. The water management plan for the Tailings Storage Facility (TSF) includes conventional tailings deposition/beach to maintain the required freeboard. A seepage control system consisting of collection ditches and recycling ponds downgradient of the TSF embankment is designed such that seepage through the dam structure is intercepted in the ditches, directed to the seepage collection ponds, and pumped back into the TSF. To ensure we minimize impacts to water bodies, we have regular monitoring at all sites and internal and external verification, data quality assurance protocols.

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#### Type of risk

Physical

#### Primary risk driver

Other physical driver, please specify (Mine's impact on surrounding air quality)

#### Primary potential impact

Increased operating costs

#### Magnitude of the potential impact

Please select

#### Likelihood

Please select

#### Where does the risk driver occur?

Company-wide

#### Mining project ID

<Not Applicable>

#### Company-specific description

Air pollution and air quality near mine sites have the potential to be negatively affected by mining activities. The key issues in terms of potential impacts on air quality include dust emissions (particulate matter of 2.5 micrometres and 10 micrometres). Nearby habitats, communities, and ecosystems may be impacted from settled dust. Additionally, emissions of potentially polluting gases such as sulphur dioxide, nitrogen oxides; and emissions of greenhouse gases, principally carbon dioxide.

#### Timeframe

Current - up to 1 year

#### Primary response to risk

Other, please specify (Implementation of environmental best practices, implementation of dust mitigation strategies)

#### Description of response

Air quality is monitored to measure the total suspended particles in the air and sites have practices in place to suppress dust settlement. These practices include enforced speed limits of vehicles, work zones are periodically watered down, washing stations for vehicles are placed at site exits where necessary, and a monitoring program to record levels of dust. In cases of exceedance (too many particles in the air at a given time period), measures are taken to promptly address the issue and reduce dust level in the air. In terms of greenhouse gas (primarily carbon dioxide) emissions, measures are taken at each site to manage emissions. Truck fleets and machinery are the primary source of exhausts, which contain nitrous oxide, sulphur dioxide, and carbon dioxide. For example, at Öksüt, low sulphur content diesel is used in vehicles, all vehicles used onsite will be used and maintained in accordance with manufacturer guidelines to ensure efficient fuel use, and vehicles and equipment are replaced when their condition is deteriorating.

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### F-MM11.3/F-CO11.3

**(F-MM11.3/F-CO11.3) Have you identified any biodiversity-related opportunities with the potential to have a substantive financial or strategic impact on your business?**

No

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### F12 Governance

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### F-MM12.1/F-CO12.1

**(F-MM12.1/F-CO12.1) Is there board-level oversight of biodiversity-related issues within your organization?**

Yes

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### F-MM12.1a/F-CO12.1a

**(F-MM12.1a/F-CO12.1a) Identify the position(s) of the individual(s) (do not include any names) on the board with responsibility for biodiversity-related issues.**

Position of individual	Please explain
Board-level committee	Centerra's Sustainable Operations Committee (SOC) of the Board of Directors provides oversight on the company's environmental performance, excluding the Tailings Storage Facility (TSF) management which is overseen by our Risk Committee. The SOC is responsible for assisting the Board in fulfilling its oversight responsibilities in relation to Safety, Health and Environment, Reserves, and the Corporate Social Responsibility. The Committee establishes and reviews Centerra's environmental policies; manages the implementation of compliance systems; monitors the effectiveness of Centerra's environmental policies, systems, and monitoring processes. Policies and internal performance standards are approved by the Vice President and Chief Operating Officer and administered by the Vice President, Security, Sustainability, and Environment (SSE). Implementation of these policies and standards are managed by site-based environmental teams. On a quarterly basis, the VP SSE provides the Sustainable Operations Committee with an update on performance related to key corporate and site-based environmental issues and provides an overview and analysis of emerging issues. To support this, on a quarterly all environmental site teams review the status of identified operational environmental risks and assess the likelihood and impact of emerging risks. This regular risk assessment process ensures that the team has proper resources to manage current and emerging risks. The Sustainable Operations Committee has six (6) independent members, and two (2) members are non-independent. The Risk Committee provides oversight on significant or critical risks, including strategic, financial, and operational risks. Risk assessments are reviewed by the Vice President, Risk & Insurance. Risks assessed as a priority are presented to the Risk Committee at the quarterly meeting to ensure appropriate oversight and resources are provided to mitigate these risks. Centerra's Risk Committee of the Board of Directors provides oversight on the company's TSF management. Centerra's Risk & Insurance and Capital Projects & Technical Services teams provide an annual update to the Committee, at minimum, on the status of the company's TSFs and more frequently if changes occur to the TSF risk ratings. The Risk Committee has six (6) members: four (4) members are independent, and two (2) members are non-independent.

**F-MM12.1b/F-CO12.1b**

**(F-MM12.1b/F-CO12.1b) Provide further details on the board's oversight of biodiversity-related issues.**

	Frequency that biodiversity-related issues are a scheduled agenda item	Governance mechanisms into which biodiversity-related issues are integrated	Please explain
Row 1	Scheduled - all meetings	Monitoring implementation and performance Overseeing major capital expenditures Reviewing and guiding annual budgets Reviewing and guiding corporate responsibility strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies	The Sustainable Operations Committee discuss/are made aware of biodiversity-related issues on a quarterly-meeting basis. The Vice President of Security, Sustainability, and Environment present quarterly updates on environmental performance, sustainability initiatives, indigenous relations, and security. The Sustainable Operations Committee is responsible for assisting the Board in fulfilling its oversight responsibilities in relation to, among other things: • The establishment and review of Centerra's safety, health, and environmental policies. • Management of the implementation of compliance systems. • Monitoring the effectiveness of Centerra's safety, health, and environmental policies, systems, and monitoring processes. • Receiving audit results and updates from management with respect to Centerra's health, safety, and environmental performance. • Reviewing the annual budget for safety, health, and environmental operations. • The Company's sustainability policies, programs, and performance. • The estimation of reserves by management. • The review of reserve information before publication. • Any additional matters delegated to the Sustainable Operations Committee by the Board. The Risk Committee provides oversight on significant or critical risks, including strategic, financial, and operational risks related to biodiversity and the environment. Risk assessments are reviewed by the Vice President, Risk & Insurance. Risks assessed as a priority are presented to the Risk Committee at the quarterly meeting to ensure appropriate oversight and resources are provided to mitigate these risks. The Risk Committee is responsible for assisting the Board in fulfilling its oversight responsibilities in relation to, among other things: • Company-wide risk management practices. • Ensuring risk informed decision making • Overseeing that the executive team has in place processes designed to identify and assess the key risks that the organization faces and has established appropriate mechanisms designed to address those risks. • Overseeing, in conjunction with other Board-level committees or the full Board, significant or critical risks, including strategic, financial, and operational risks. • Clarifying the division of risk-related responsibilities to each Board committee and analysis to determine that the oversight of significant or critical risks is not overlooked.

**F-MM12.2/F-CO12.2**

**(F-MM12.2/F-CO12.2) Provide the highest management-level position(s) or committee(s) with responsibility for biodiversity-related issues (do not include the names of individuals)**

**Name of the position(s) and/or committee(s)**

Other committee, please specify (Vice President, Security, Sustainability & Environment )

**Responsibility**

Both assessing and managing biodiversity-related risks and opportunities

**Frequency of reporting to the board on biodiversity-related issues**

Quarterly

**Please explain**

The Vice President of Security, Sustainability, and Environment (SS&E) is responsible for the development of environmental and/or sustainability standards, policies, and strategies, as well as oversees the implementation of environmental protocols and conformance. The Vice President also communicates key issues with the Board of Directors and the executive team. The VP, SEE also presents a summary of updates and metrics to the Board every quarter. The summary includes updates of environmental performance (water, waste management, environmental management systems, and monitoring), social sustainability and community initiatives, indigenous relations, and security. Specific environmental and biodiversity-related risks may be addressed in these quarterly meetings on an 'as needed' basis. Risk assessments are reviewed by the Vice President, Risk & Insurance. Risks assessed as a priority are presented to the Risk Committee at the quarterly meeting to ensure appropriate oversight and resources are provided to mitigate these risks.

**F-MM12.3/F-CO12.3**

**(F-MM12.3/F-CO12.3) Do you provide incentives to C-suite employees or board members for the management of biodiversity-related issues?**

	Are there incentives to C-suite employees or board members?	Comment
Row 1	Yes	At the beginning of each year, the Board and management agree on financial, operational and strategic objectives for the year which are based upon a number of factors, including Centerra's annual and long-term business strategy and its overall risk appetite. At the conclusion of each year, the Human Resources & Compensation Committee assesses actual performance against these objectives. Centerra's 2019 corporate performance measure was based upon the following performance categories for cash bonus incentive plan purposes: • Health, safety, and sustainability performance (20%); • Operating and financial performance (45%); and • Growth and value creation (35%). If Centerra meets each of the targeted performance measurements, the corporate performance multiplier is 1.0. If the stretch performance is achieved or exceeded for each of the corporate performance measures, the corporate performance multiplier is 1.5. If the minimum performance is not achieved for a specific corporate performance measurement, no amount is payable for the measurement. The environmental category assesses whether Centerra has had any environmental incidents by risk rating and performance on ESG Improvement Initiatives, which include initiatives related to biodiversity. Environmental incidents consider any area that is reportable including: waste and hazardous materials, water management, air quality, tailings etc.

**F-MM12.3a/F-CO12.3a**

**(F-MM12.3a/F-CO12.3a) What incentives are provided to C-Suite employees or board members for the management of biodiversity-related issues (do not include the names of individuals)?**

	Role entitled to incentive	Indicator for incentivized performance	Please explain
Monetary reward	Board chair Board/Executive board Director on board Chief Executive Officer (CEO) Chief Financial Officer (CFO) Chief Operating Officer (COO)	Achievement of commitments and targets	Centerra's annual cash bonus incentive plan is a short-term incentive plan designed to provide annual cash bonuses based upon the achievement of corporate and individual targets in the year. Awards are based on the Company's results achieved during the year and the achievement of predetermined personal objectives. As stated above, health, safety, and sustainability performance (which includes environmental performance) accounts for 20% of the corporate objectives. 2019 corporate targets were: - To achieve the first 5%, Centerra had to have 0 Level IV or Level V environmental incidents. 0 incidents will give 100% or 150% of total weight. - To achieve the second 5%, the category is ESG rating improvement initiatives. At 150%, the company must have developed three (3) new Centerra Corporate Environmental Standards (e.g. Closure, Biodiversity Management, etc) and implement two (2) new Centerra Corporate Standards at each operational site. - To achieve 100% of the 5%, the Company must have developed three (3) new Centerra Corporate Environmental Standards (e.g. Closure, Biodiversity Management, etc) and implemented one (1) new Centerra Corporate Standard at each operational site.
Non-monetary reward	Please select	Please select	

**F-MM12.4/F-CO12.4**

**(F-MM12.4/F-CO12.4) Does your organization have a policy that includes biodiversity-related issues?**

Yes, we have a documented biodiversity policy that is publicly available

**F-MM12.4a/F-CO12.4a**

**(F-MM12.4a/F-CO12.4a) Select the options that best describe the scope and content of your policy.**

	Format	Content	Please explain
Row 1	Other	Recognition of potential business impact on natural habitats Description of biodiversity-related performance standards Commitments beyond regulatory compliance Commitment to transparency Commitment to stakeholder awareness and capacity-building Reference to international standards and widely-recognized biodiversity-related initiatives Commitment to protect rights and livelihoods of local communities Other, please specify (To self-monitor, to include audit programs and management reviews, to avoid, reduce, or control emission or discharge of pollutants)	At Centerra, each operating site has a site-specific environmental policy that is aligned with national legislation and international best practices that Centerra has adopted. Both Kumtor Mine in Kyrgyz Republic and the Öksüt Mine in Turkey have environmental policies and have biodiversity action plans that support the implementation of these plans. Öksüt's Biodiversity Management Plan and Biodiversity Action Plan can be publicly accessed here: <a href="https://www.ebrd.com/work-with-us/projects/esia/centerra-turkey.html">https://www.ebrd.com/work-with-us/projects/esia/centerra-turkey.html</a> Mount Milligan has stand-alone topic specific plans that together make-up the main components of a comprehensive biodiversity plan, including: wildlife management, environmental effluent effects, fisheries management, cultural heritage plan, invasive plant management, landscape, receiving water quality, soil and vegetation management and reclamation and closure plan.



## F-MM12.5/F-CO12.5

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**(F-MM12.5/F-CO12.5) Has your organization made any public commitment(s) to reduce or avoid impacts on biodiversity?**

Yes

## F-MM12.5a/F-CO12.5a

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**(F-MM12.5a/F-CO12.5a) Provide details on your public commitment(s), including the description of specific criteria, coverage, and timeframe.**

**Commitment**

Adoption of the mitigation hierarchy approach

**Coverage**

Company-wide

**% of total production covered by commitment**

100%

**Commitment timeframe**

Mine closure

**Please explain**

Centerra is committed to contributing to the protection and conservation of biodiversity and requires the application of integrated approaches to land-use planning throughout the mining lifecycle. These practices are to be aligned with Good International Industry Practice ("GIIP") like the International Council on Mining and Metals. This means that management plans will apply the mitigation hierarchy, beginning with avoidance and followed by minimization, mitigation, and then offsetting if appropriate. For example, due to a combination of Centerra's standards and project-financing requirements by the European Bank for Reconstruction and Development (EBRD), the mitigation hierarchy framework was adopted during the environmental impact assessment process at Öksüt.

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**Commitment**

No Net Loss

**Coverage**

Company-wide

**% of total production covered by commitment**

100%

**Commitment timeframe**

No specified timeframe

**Please explain**

Centerra Gold publicly committed to conforming to the World Gold Council's Responsible Gold Mining Principles (RGMPs). With this commitment comes the responsibility to fulfill the requirements of the RGMPs, specifically Principle 8 and Principle 9. Principle 9, sub-section 9.1 on Biodiversity addresses that "we will implement biodiversity management plans. When feasible, we will strive to maintain no net loss of critical habitat.

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**Commitment**

Not to explore or develop mines in World Heritage sites

**Coverage**

Company-wide

**% of total production covered by commitment**

100%

**Commitment timeframe**

No specified timeframe

**Please explain**

Centerra Gold publicly committed to the World Gold Council's Responsible Gold Mining Principles (RGMPs). With this commitment comes the responsibility to fulfill the requirements of the RGMPs, specifically Principle 9, subsection 9.2: "We will not explore or seek to develop new mining operations in an area designated as a World Heritage Site". Centerra Gold commits to not exploring or developing mines in World Heritage Sites. All current exploration projects comply this commitment.

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**Commitment**

Respect legally designated protected areas

**Coverage**

Company-wide

**% of total production covered by commitment**

100%

**Commitment timeframe**

No specified timeframe

**Please explain**

In accordance with the Responsible Gold Mining Principles and the mitigation hierarchy, Centerra's sites respect legally protected areas. At Kumtor we have instituted a formal screening process and checklist that is completed prior to the start of any priority exploration targets outside our permitted area or areas within the permitted area that have been previously undisturbed. This ensures that any new exploration meets our environmental commitments and criteria. The screening process is supervised by Kumtor's environmental team and is conducted in compliance with ICMM biodiversity standards. At Öksüt, the permitted mine area is significant for the conservation of species and as such, we have established a no net loss objective. Specifically, to protect endangered plant species we have removed these plants and established an off-site greenhouse and will replant these species at the appropriate time. In addition, we have collected the seeds of these plants and have created a seed bank that will be

used to plant new areas and restore affected areas. At Mount Milligan, this process also includes a cultural heritage assessment. Our Exploration team completes an Environmental Permit to Disturb application, including an environmental risk assessment. The risk assessment considers environmental hazards and mitigation for all aspects of the project from start up to reclamation including spills, erosion, removal of brush and trees, archaeological assessment, bird nesting periods and other wildlife habitat considerations, and protection of natural waterways. The permit is reviewed and must be approved by the site's environmental team in advance of any work being undertaken

**Commitment**

Avoidance of negative impacts on threatened and protected species

**Coverage**

Company-wide

**% of total production covered by commitment**

100%

**Commitment timeframe**

No specified timeframe

**Please explain**

At Centerra's operational sites, no-hunting policies are incorporated into biodiversity/environmental managements plans, and therefore no-hunting policies are committed to. No-hunting policies stand at Kumtor Mine and the Sarychat-Ertash Nature Reserve in Kyrgyz Republic, at Mount Milligan Mine in British Columbia, and Öksüt Mine in Turkey. For example, at the Kumtor Mine in Kyrgyz Republic, issues of poaching, illegal hunting, and lack of institutional support have been the main risks and barriers to broader wildlife biodiversity conservation in the region before the creation of the Sarychat-Ertash Nature Reserve. In a review of Kumtor's EIA in 1995, Kumtor adopted no-hunting policies and support for conservation NGO-led capacity building and monitoring programs. The Biodiversity Management Strategy and Plan (BMSP) commits to maintain these no-hunting policies, along with responsible mining practices, to avoid negative impacts on threatened and protected species within the Sarychat-Ertash Nature Reserve. Centerra Gold publicly committed to conforming to the World Gold Council's Responsible Gold Mining Principles (RGMPs). With this commitment comes the responsibility to fulfill the requirements of the RGMPs, specifically Principle 8 and Principle 9. Principle 9, sub-section 9.1 on Biodiversity addresses that "we will implement biodiversity management plans. At a minimum, we will seek to ensure that there is no net loss of critical habitat."

**F13 Business strategy**

**F-MM13.1/F-CO13.1**

**(F-MM13.1/F-CO13.1) Are biodiversity issues integrated into any aspects of your long-term strategic business plan, and if so how?**

	Are biodiversity-related issues integrated?	Long-term time horizon (years)	Please explain
Long-term business objectives	No, biodiversity-related issues not yet reviewed, but there are plans to do so in the next two years	<Not Applicable>	Biodiversity-related issues are integrated into long-term strategic planning, as Centerra has a responsibility to fund asset retirement obligations in the present. Developing a reclamation plan and funding post-closure activities occurs early on the planning of a mine (i.e. the biodiversity and environment-related issues are considered early on in the mine's life, or pre-development) and necessitates us to understand and forecast environmental closure costs.
Strategy for long-term objectives	No, biodiversity-related issues not yet reviewed, but there are plans to do so in the next two years	<Not Applicable>	
Financial planning	No, biodiversity-related issues not yet reviewed, but there are plans to do so in the next two years	<Not Applicable>	Centerra is subject to strict environmental regulation in connection with exploration, development, construction, mining, and reclamation activities in each of the jurisdictions of operation. Centerra's policy is to conduct business in a way that safeguards public health and the environment. The financial and operational effects of our environmental protection requirements are significant. Future legislation, policies, or other events could cause additional operating expenses, capital expenditures, restrictions or delays in the development and continued operation of our properties. All our operations and care & maintenance sites have closure plans or frameworks in place, depending on their current stage of operations. We adopt a strict regime for mine closure including annual mine cost updates and we review our conceptual closure plans on a regular cycle to include both environmental and social impacts of closure. We align with the ICMM Mine Closure framework and financial surety is in place. At the Kumtor Mine, a trust fund has been set up for final reclamation measures. The reclamation trust fund is restricted for use and controlled by an independent trustee. We annually contribute funds to the Kumtor Mine reclamation trust fund based on projected gold production in the year. As at December 31, 2019, the balance in the fund was \$40.9 million. As part of the settlement reached with the Kyrgyz Government, the Kumtor Mine agreed to increase the rate of funding of the reclamation trust fund to a minimum of \$6 million per year until the fund reaches \$69 million. This amount of \$69 million was determined by an independent assessment of Kumtor Mine's current reclamation costs and is broadly in line with our estimated reclamation costs for the Kumtor Mine. For our operations in North America, as at December 31, 2019, we provide financial assurance (surety bonds) for reclamation costs of approximately C\$45.1 million for the Mount Milligan Mine. For our Öksüt Mine in Turkey, we provided financial assurances for reclamation costs of approximately \$1.44 million. Our conceptual closure plans and related costs will change over time as a result of, among other things, changes in environmental legislation, changes in international best practices, and changes in our understanding of the types of reclamation activities that each site will require.

**F14 Implementation**

## F-MM14.1/F-CO14.1

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**(F-MM14.1/F-CO14.1) Have you specified any measurable and time-bound targets related to your commitment(s) to reduce or avoid impacts on biodiversity?**

Yes

## F-MM14.1a/F-CO14.1a

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**(F-MM14.1a/F-CO14.1a) Provide details of your target(s) related to your commitment(s) to reduce or avoid impacts on biodiversity, and progress made.**

**Target reference number**

Target 1

**Target label**

Öksüt Biodiversity Offset Strategy Targets

**Base year**

2016

**Target year**

**% of target achieved**

Data not available

**Please explain**

Centerra's Öksüt Mine in Turkey has a no net loss / net gain goal for the life of the mine. This high-level goal is composed of several steps and targets which are measurable, and time bound. There are three main steps that Öksüt has committed to in the Biodiversity Offset Strategy plan: additional studies, conservation actions, and offset planning. Conservation actions will be carried out to prepare for future offset measures starting from the pre-construction phase, and each action has additional details and related timelines. The 2019 summary of activities include: • Planting of 1000 oak trees in accordance with the protocol between OMAS and the Regional Directorate of Forestry in April 2019. • Biodiversity studies performed with Gazi University and external consultants. • Verbascum plant species moved from the conservation area to the nursery. Nursery inspection and measurements of the flora species took place. • Three powerline bird observation studies were completed during their winter migration phase. • A revised draft of the Biodiversity Offset Management Plan (BOMP) was prepared and submitted by external consultants. The revised Biodiversity Offset Management Plan will detail the steps of the offset design process as follows: quantify the residual losses; review and select appropriate offset locations and activities; and assess the biodiversity gains that could be achieved.

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**Target reference number**

Target 2

**Target label**

Mount Milligan Land Capability Objectives

**Base year**

**Target year**

**% of target achieved**

1-10%

**Please explain**

The end land use targets for the reclaimed Mount Milligan Mine are wildlife, recreation, and reestablishment of opportunities for traditional use of the land by Indigenous groups. Recreation opportunities expected post-closure include the following: • Improved safety access to the area by the upgraded Rainbow Forest Service Road (FSR) • Access to reclaimed areas that provide wildlife habitat and contain native vegetation • Species (i.e., opportunities for activities such as hiking, wildlife viewing, and plant harvesting) • Continued use of Rainbow Creek for fishing • Hunting opportunities on the former mine site The land capability objectives after decommissioning and reclamation include areas that will be returned to landforms similar to pre-mining conditions: • Plant site • Administrative facility sites • Topsoil stockpile footprints • Internal roads and pipeline corridors • Laydown areas and areas cleared of vegetation but not occupied by mine infrastructure

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## F-MM14.2/F-CO14.2

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**(F-MM14.2/F-CO14.2) Provide details on mining projects that are required to produce Biodiversity Action Plans.**

**Row 1**

**Number of mining projects required to produce a biodiversity action plan**

3

**% of mining projects required to produce a biodiversity action plan that have one in place**

100

**Format**

Stand-alone document

**Frequency biodiversity action plans are reviewed**

Regularly

**Please explain**

Centerra's Kumtor Mine site has a Biodiversity Management Strategy and Plan (BMSP), a standalone document. The key components of the Kumtor's BMSP identified at this time include three work-streams. First, updating Kumtor's environmental and closure policies, systems, plans, and reporting to further integrate (mainstream) biodiversity aspects. Second, conclude a multi-year partnership through a Memorandum of Understanding (MOU) and related funding commitment with an international conservation NGO active in Kyrgyzstan. Third, through this partnership, support and co-finance the validation and implementation of the SCER's (Draft) Management Plan and related and/or broader research and monitoring programs. This includes plans for seamless integration of Kumtor's obligatory biodiversity-related studies and monitoring with those of the SCER's annual work/action plans. Kumtor will also pursue Biodiversity Enhancement (BE) opportunities and a related portfolio of projects and programs to promote net-positive biodiversity actions have been identified and presented in this document. Öksüt has a Biodiversity Action Plan: The Biodiversity Action Plan (BAP) features 9 specific tasks related to biodiversity conservation and sustainable management of living natural resources. These tasks consider flora studies, a threatened flora species conservation plan, flora salvage plan, on-site conservation of flora and vegetation, flora seed collection, flora cultivation, threatened habitat studies, threatened habitat restoration, common tortoise survey, installation of tortoise-friendly culverts, bird studies in the Sultan Sazlığı National Park and along the powerline route, mitigation measures for birds, a Biodiversity Offset Strategy (BOS) and Biodiversity Offset Management Plan (BOMP) and Biodiversity Management Plan (BMP). The BAP and BMP can be publicly accessed here: <https://www.ebrd.com/work-with-us/projects/esia/centerra-turkey.html> Mount Milligan has several standalone Plans, including: • Wildlife Management Plan • Fisheries Management Plan • Invasive Plant MP • Landscape, Soil and Vegetation Management Plan • Environmental Effects Monitoring Plan • Receiving Water Quality Management Plan Summarizations of these plans can be publicly accessed here: <https://projects.eao.gov.bc.ca/api/document/5888e5b7817b85ae43cf7bf6/fetch>

**F-MM14.3/F-CO14.3**

**(F-MM14.3/F-CO14.3) Has your organization adopted avoidance and/or minimization as strategies to prevent or mitigate significant adverse impacts on biodiversity?**

Yes

**F-MM14.3a/F-CO14.3a**

**(F-MM14.3a/F-CO14.3a) Provide relevant company-specific examples of your implementation of avoidance and minimization actions to manage adverse impacts on biodiversity.**

**Mining project ID**

Project 1

**Approach**

Minimization

**Type of measure**

Operational controls

**Description**

In 2013, Kumtor developed an integrated waste management strategy with input from international consultants. This strategy includes principles such as minimizing the negative impact of waste on the environment. In 2017, Kumtor introduced a partial separate collection and recycling of solid domestic waste in the camp. In particular, a four-component separate collection of waste was introduced in the camp kitchen. In 2019, Kumtor achieved the previously set objectives for waste management, namely: • 100% recycling of industrial and shipping waste; • 100% composting of food waste from the camp kitchen on site. Additionally, a biodegradable waste processing station, or compost unit, was designed and constructed. In this station, food waste is processed by aerobic decomposition producing compost – an organic fertilizer that will be used for the restoration of fertile properties of topsoil, reclamation of disturbed fertile soil areas. Laboratory tests confirmed that the chemical-biological composition of the final product – compost – fully complies with the properties of organic fertilizers. In this way, about 1 ton of food waste is processed per day. The recyclable types of waste are still sent to processors of plastic, paper, and metal what made it possible to significantly reduce the amount of waste to be buried on-site and, therefore, extend the life of the waste landfills, reduce negative impact on the environment, reduce expenses for maintenance of landfills and partially solve the problems with wild animals feeding on food waste.

**Mining project ID**

Project 1

**Approach**

Minimization

**Type of measure**

Abatement controls

**Description**

One aspect of Kumtor's biodiversity enhancement program is to minimize impacts on biodiversity and surrounding wildlife. Kumtor has a 4-phase approach to biodiversity enhancement. The scope of this program addresses: • "within fence line – management of natural habitats to enhance biodiversity", • "wider concession – management of natural habitats and support for existing conservation initiatives or protected areas", • "area of interactions – partial responsibility with active involvement of other parties", and • "area of influence – supportive advocacy role but primary responsibility of other parties". In 2019, Kumtor continued its studies on: • A variety of fauna surveys and hydrobiological researches within Kumtor concession area including observations of the population of Marco Polo sheep, mountain goats, wolves, and foxes; • Continued

studies into the potential risk of cyanide impacts on biodiversity around the tailings management facility - as part of demonstrating compliance with the International Cyanide Management Code; • Continued study of wetland facility to reduce concentrations of ammonia and heavy metals in the waste rock dump run-offs and the ETP discharge; • CAP team continued investigation and implementation opportunities to reduce waste management costs and the amount of waste landfilled at the mine site; • Monitoring of glaciers and meteorological conditions on the Kumtor concession area and in the basins of the Arabel and Uchkol Rivers; • Controlled lowering of the water level in Petrov Lake to prevent a Glacial Lake Outburst Flood (GLOF).

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#### Mining project ID

Project 1

#### Approach

Avoidance

#### Type of measure

Other avoidance measure, please specify (Footprint expansion)

#### Description

Kumtor is committed to its obligations to preserve natural biodiversity and reduce negative impacts of operations on the environment during operation of the mine. The Kumtor Mine site is in the vicinity of the Sarychat-Ertash Nature Reserve (SCER). In accordance with the Responsible Gold Mining Principles and the mitigation hierarchy, Kumtor has committed to not expand into, develop, or explore in legally protected or internationally recognized areas. By upholding this promise – avoiding expansion into a protected area – biodiversity in and near the SCER will be protected and preserved.

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#### Mining project ID

Project 2

#### Approach

Minimization

#### Type of measure

Operational controls

#### Description

Mount Milligan implemented an additional adaptive management and monitoring program to address potential effects to mountain whitefish spawning habitat in October and November for both Philip Creek and Rainbow Creek over the medium-term. In Philip Creek, Mount Milligan has established seasonally based spawning flow thresholds for October and November as identified by FLNRORD. Withdrawal rates during October and November are set to protect 90% of baseline mountain whitefish spawning habitat: monthly thresholds are set to 0.294 m<sup>3</sup>/s in October and 0.157 m<sup>3</sup>/s in November. Second, Mount Milligan conducted fall spawner surveys in Philip Creek, immediately downstream of Philip Lake 1, over the medium-term withdrawal period to enumerate mountain whitefish use in the creek, as well as to identify spawning locations. These data will be used to verify that mountain whitefish are using Philip Creek for spawning and to validate the habitat suitability information used in the model. In Rainbow Creek, Mount Milligan has established seasonally based spawning flow thresholds for October and November as identified by FLNRORD. Withdrawal rates during October and November are set to protect 90% of baseline mountain whitefish spawning habitat: monthly thresholds are set to 1.049 m<sup>3</sup>/s in October and 0.818 m<sup>3</sup>/s in November as measured at STN-26A. Mount Milligan committed to these fall mountain whitefish spawning thresholds for the duration of medium-term withdrawals (i.e., 2020 and 2021). Mount Milligan will continue to monitor throughout the medium-term monitoring period and changes to the thresholds may be made based on the results of this monitoring.

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#### Mining project ID

Project 2

#### Approach

Minimization

#### Type of measure

Abatement controls

#### Description

At Mount Milligan, revegetation is an important element of progressive reclamation; the objective of Mount Milligan's revegetation strategy is to develop a system to promote the revegetation of mine features to meet end land use objectives. Planting of trees, shrubs, and forbs and/or seeding of grasses is intended to initiate the establishment of plant cover and the development of ecosystems that provide wildlife habitat and/or support other end land use objectives. In 2019, operational planting was completed on an area covering about 4 ha on the south tailings dam slope surrounding the research plots that were established in 2018. In the operational area, stakes were placed in the hollows with four stakes per hollow targeted. Altogether, approximately 2,050 willow stakes were planted throughout the tailings dam slope operational area. Following planting, leftover stem cuttings were transported to NAIT for confirmation of species and propagation of additional rooted plants.

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#### Mining project ID

Project 3

#### Approach

Minimization

#### Type of measure

Abatement controls

#### Description

At the Öksüt mine site and powerline area, the *Astragalus vestutus* ssp. nov. plant species is classified as critically endangered. The species of plant is locally endemic, is categorized as a critical habitat (CH) and has great conservation value. The main threats for the conservation of this species currently are habitat loss due to mining activities and overgrazing of livestock. It is estimated that 50% of its known population will be lost due to mining and excessive grazing activities. Within the mine site, area deemed suitable for hosting *Astragalus vestutus* spp. nov. were surveyed in their peak growing season. A Threatened Flora Species Conservation Plan was developed at the end of 2016, and was updated annually since development. Based on the Conservation Plan, Öksüt developed a Flora Salvage Plan, which identified, salvaged, transported, and re-located the plant. Additionally, on-site conservation of flora and vegetation occurred; areas of plant growth were fenced-off, and protected from mining/grazing activities. Seeds were collected and cultivated for future growth opportunities. • In 2019, planting of 1000 oak trees in accordance with the protocol between OMAS and the Regional Directorate of Forestry in April 2019. • Biodiversity studies performed with Gazi University and external consultants. • *Verbascum* plant species moved from the conservation area to the nursery. Nursery inspection and measurements of the flora species took place.

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#### Mining project ID

Project 3

#### Approach

Minimization

**Type of measure**

Abatement controls

**Description**

At Öksüt, vegetation clearing for the construction of the mine area will occur. In order to minimize the impacts, Öksüt has implemented the mitigation hierarchy strategy to minimize the amount of vegetation cleared and the amount of topsoil removed or disturbed. These minimization efforts include: • Ensuring all vehicles drive on designated routes unless otherwise authorized • Using "bird repellent tape" to guide nesting birds away from the construction area • Hiring an ecologist to perform pre-construction surveys in the areas prior to vegetation clearing. The survey will focus on fauna species with limited mobility that cannot move ahead of the construction (e.g. the common tortoise). Species that cannot move will be properly relocated • Preserving vegetation areas which host nests • Installing tortoise-friendly culverts for reptiles to use in crossings and to minimize the effects of habitat fragmentation

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F-MM14.4/F-CO14.4

**(F-MM14.4/F-CO14.4) Have significant impacts on biodiversity been mitigated through restoration?**

	Have significant impacts on biodiversity been mitigated through restoration?	Comment
Row 1	Partially	The Mount Milligan Mine in BC, Canada has implemented progressive restoration measures throughout 2019. As Mount Milligan Mine is in its 6th year of production there have been relatively limited opportunities for progressive and ongoing reclamation at this early stage of mine life. There is currently one four-hectare section of Tailings Storage Facility (TSF) dam slope that is being reclaimed. Key activities for the 2019 to 2023 period include reclamation of an additional 4 hectares on the TSF in Fall 2020, and an additional 40-50 hectares in 2021.

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F-MM14.4a/ F-CO14.4a

**(F-MM14.4a/ F-CO14.4a) Provide details on restoration actions you have in place in your sites.**

**Mining project ID**

Project 1

**Description of the impact being mitigated by restoration**

Soil loss/soil nutrient reduction/etc.

**Type of ecosystem restored**

Other ecosystems

**Total area restored to date (hectares)**

0

**Total area to be restored (hectares)**

816

**Target year**

**Describe restoration actions**

To ensure the Kumtor site has appropriate reclamation materials when restoration actions begin, it is protocol to strip fertile topsoil from surfaces prior to development/use. This fertile topsoil is then stored for future soil reclamation and growth medium purposes. In addition, In 2017, a biodegradable waste processing station, or compost unit, was designed and constructed. In this station, food waste (processed by aerobic decomposition producing compost) is converted to an organic fertilizer that will be used for the restoration of fertile properties of topsoil, reclamation of disturbed fertile soil areas. Laboratory tests confirmed that the chemical-biological composition of the final product – compost – fully complies with the properties of organic fertilizers. Additionally, in 2018, Kumtor continued to implement the scientific program to research and develop the most effective methods for land reclamation. The program includes collecting native plant seeds and establishing trial plots with disturbed topsoil to test proposed seed species, topsoil addition rate, seeding rate, and requirements to fertilizers. The studies are conducted by the Kyrgyz National Agrarian University named after K. I. Skryabin.

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**Mining project ID**

Project 2

**Description of the impact being mitigated by restoration**

Impacts that are being mitigated by restoration and progressive reclamation are deforestation, vegetation clearing, and soil erosion – which are all due to surface development of the mine and expansion of the pit.

**Type of ecosystem restored**

Forest ecosystems

**Total area restored to date (hectares)**

36

**Total area to be restored (hectares)**

1856.94

**Target year**

**Describe restoration actions**

Restoration actions in 2019 consisted of revegetation and growth medium (soil placement). The soil salvage, replacement, and reclamation (revegetation) program has been developed to meet end land use objectives. To promote the development of these objectives: • Suitable quantities of surficial soils and overburden are and will continue to be salvaged to resurface disturbed areas to a capping depth of up to between 30 cm or 80 cm, depending on the end land use objective and site conditions • TSF embankments are constructed to have a 2:1 slope. A 2:1 slope, which is a slope angle of approximately 26°, will have specific erosion control measures and vegetation cover strategies. Thus, reclamation treatments will be based on the aspects/slope angle created by the embankments and the area's end land use objective. As soon as practicable, vegetation will be re-established to control erosion and invasive plant establishment. For final reclamation, most of the Mt. Milligan mine area (excluding the fine sediment portions of the TSF) will be revegetated with native tree, shrub and forb species to meet end land use objectives and projected post-closure target ecosystems. The TSF embankments and platforms will be revegetated with shrubs, forbs and some evergreen tree species on the lower portions of the dam to promote soil stability, water retention and to reduce erosion (i.e., tree species will not be used) to manage concerns with geotechnical stability associated with tree roots and windfall. In 2019, operational planting (revegetation) was completed on an area covering about 4 ha on the south tailings dam slope surrounding the research plots that were established in 2018. In the operational area, stakes were placed in the hollows with four stakes per hollow targeted. Along the base of the dam face, below the operational planting and experimental plots, an additional 200 stakes were planted in a row using a spacing of approximately two metres. Where evidence of erosion was observed, additional stakes were clustered in the erosion gullies to provide additional root stabilization. Altogether, approximately 2,050 willow stakes were planted.

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**F-MM14.5/F-CO14.5**

**(F-MM14.5/F-CO14.5) Have significant residual impacts of your projects been compensated through biodiversity offsets?**

	Have residual impacts been compensated through biodiversity offsets?	Comment
Row 1	Partially	Refer to F-MM14.5a/F-CO14.5a.

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**F-MM14.5a/F-CO14.5a**

**(F-MM14.5a/F-CO14.5a) Provide details on the biodiversity offsets you have in place.**

**Mining project ID**

Project 3

**Description of the impact being offset**

Öksüt's mining activities involve the clearing of vegetation and removal of topsoil in areas on the mine site. This removal of vegetation and topsoil will directly impact vulnerable and endangered and critically endangered flora species. In addition, residual impacts from mining activities on the soil composition and health could have indirect impacts on flora species as well. Residual impacts to the oak tree species in the woodland area will be offset.

**Motivation**

Please select

**Type of offset**

Restoration offset (forests)

**Area (hectares)**

1

**Describe the offset**

In April 2019, a reforestation trial was commenced in coordination with the Forestry Department. An area of approximately 1 ha has been planted with 1000 oak saplings (three species) under a 5-year contract that includes monitoring and re-planting of individuals that do not survive.

**Mining project ID**

Project 1

**Description of the impact being offset**

As a large opencast mine, Kumtor has impacts on the local natural environment, including flora and fauna species. While Kumtor's high-elevation location is not a favourable habitat for a wide variety of plants and animal species, important and vulnerable species still rely on this area for habitat, including the snow leopard, Marco Polo argali, etc. Kumtor's mining pits, transport of materials and waste, noise and dust may impact the population, distribution, and characteristics of stay at habitats of endemic, migratory, rare, and KR Red Listed species.

**Motivation**

Voluntary

**Type of offset**

Restoration offset (other)

**Area (hectares)**

616

**Describe the offset**

In 2019, Kumtor began planning for a Mini-Ecological Reserve program in the Ton District. At the beginning of 2020, the Toolu-Oron Koomu Community Organization participated in a program hosted by the United Nations Development Programme (UNDP). This program focuses on the conservation of biodiversity and ecosystems of the Aydyn Kol (236 ha) and ak-Bulun (380 ha) sites near Kumtor Mine. Specifically, the program allocated a grant to establish two micro-ecological reserves. These micro-ecological reserves will focus on the reproduction of red-listed animals in the area, such as the Marco Polo argali, mountain goats, hares, marmots, lynxes, wolves, golden eagles, vultures, owls, ulars, kekiliks, hawks, and pigeons. The project will take a year to implement and is predicted to be completed in 2021. The reserves are intended to be a long-term project, which will positively contribute to the development and conservation of ecosystems.

**Mining project ID**

Project 1

**Description of the impact being offset**

Due to Kumtor's mining activities at a high-elevation location and proximity to significant watercourses (Kumtor River, Petrov Lake) impacts on water and its relation to irrigation, downstream water sources, and soil composition and structure are considered in the Biodiversity Management Strategy and Plan. Improved irrigation can positively impact soil formation and maintenance of soil fertility, improve nutrient cycling, and as a result increase primary productivity. Improved soils can host a higher number of plant and crop species, improving local biodiversity and resiliency. This opportunity can provide long-term biodiversity impacts, positively contributing to local primary productivity.

**Motivation**

Voluntary

**Type of offset**

Restoration offset (other)

**Area (hectares)**

18645

**Describe the offset**

In 2019, Kumtor commenced an irrigation restoration project in the nearby villages of the Jeti-Oguz District. The project goal is to support agricultural development and to stop land degradation as well as to provide access to irrigation water. The main objectives of this investment is to: • Increase the irrigation water volume and expand significantly the irrigated land area. • Increase crop productivity and, as a result, increase income for farmers. • The areas eligible for the irrigation restoration project were identified during the Regional Committee meetings. In 2019, 42 channels totaling to 271,800 cubic meters were cleaned up in the Jeti-Ögüz District. All work was performed by local contractors who have signed contracts with Kumtor, thus providing opportunities to local companies to develop and replenish the regional budget.

**F-MM14.6/F-CO14.6**

**(F-MM14.6/F-CO14.6) Is your organization implementing or supporting additional conservation actions?**

	Implementing or supporting additional conservation actions?	Comment
Row 1	Yes	Refer to F-MM14.6a/F-MCO14.6a.



**(F-MM14.6a/F-CO14.6a) Provide details on the main additional conservation actions you are implementing or supporting.****Project title**

Kumtor: Glacier Monitoring &amp; Management

**Project theme**

Other, please specify (Glacier conservation)

**Country/Area**

Kyrgyzstan

**Location**

In the area of influence of mining project

**Primary motivation**

Legal requirements

**Timeframe**

Undefined

**Start year**

1995

**End year**

&lt;Not Applicable&gt;

**Description of project**

The movement of the Davydov and Lysyi glaciers has been monitored since 1995, before mining started, with Sarytor and Bordu glaciers included in recent years. In 2014, Kumtor constructed an in-pit retaining buttress to reduce the movement rate of the south arm of the Davydov Glacier. Regular monitoring has shown this has been an effective engineering solution and has reduced the quantity of ice that needs to be removed to ensure pit safety. In 2014, Kumtor commenced a long-term glacier and hydrometeorological monitoring program covering the Kumtor concession area and basins of Arabel and Uchkol rivers. The studies are conducted by the Institute of Water Problems and Hydropower under KR NAS with the involvement of experts from MGU (Moscow State University, Russia). The monitoring program aims to assess the status of glaciers and trace the dynamics of their change (movement rate, linear retreat, and surface depression) and reflective properties of their surfaces (albedo) within the area of immediate anthropogenic impact by Kumtor and comparison of obtained data with similar observations were undertaken on glaciers located at significant distances from the mine. In 2019, Kumtor continued funding the glacier research covering the glaciers within and outside the Kumtor concession area. In 2019, the Kyrgyz Institute of Water Problems and Hydropower (IWPH) of the KR National Academy of Sciences continued 2014-2018 research and based on the approved by both parties expanded glacier and hydrometeorological monitoring program covering Kumtor concession area.

**Description of outcome to date**

In 2018-2019, it was observed that of the monitored glaciers, the Sarytor, Lysyi, Sarychat, Bordu glaciers, the Lysyi glacier experienced the greatest removal of mass. The Lysyi glacier is subject to the most significant impacts of the Kumtor mine operations. The Lysyi glacier is vulnerable to dust storms, and the fine particulate earth matter than can come from the nearby waste rock dump area. From 2014-2019, all the observed glaciers underwent a persistent retreat of the front tongue sections, most in part due to warmer air temperatures. Annual air temperature increase trend made up 1.5 °C for 1930-2019. Based on this, it is concluded that retreat of most of the observed glaciers in the Arabel and Uchkol river basins is mainly caused by global climate warming, and not by the technogenic impact of the mine operations.

**Project title**

Fish Habitat Compensation Plan

**Project theme**

Other, please specify (Biodiversity compensation measure)

**Country/Area**

Canada

**Location**

In the area of influence of mining project

**Primary motivation**

Legal requirements

**Timeframe**

Undefined

**Start year****End year**

&lt;Not Applicable&gt;

**Description of project**

The requirement for Fish Habitat Compensation is governed under the Canadian Fisheries Act and Metal Mining Effluent regulation in the form of a Department of Fisheries and Oceans HADD authorization for companies developing on lands near watercourses that will impact the habitats of fish if development were to take place. At Mount Milligan, a Fish Habitat Compensation Plan was developed through consultation with regulators, Indigenous Groups, fisheries, biologists, environmental engineers, and forestry professionals. The Plan is comprised of two parts: an impact assessment on fish from the mine, excluding the TSF, and an impact assessment specifically on the fish habitat inside the TSF. As part of the work, an overwintering pond was constructed in Rainbow Creek lower to provide fish with safe spots to survive under winter ice, rearing ponds were built, and problem culverts were replaced. Compensatory works were built between 2011 and 2017 and have been monitored since 2013. These works included: • The enhancement of rearing habitat in Rainbow Creek through added complexity in the form of large woody debris and boulder structures; • The construction of three ponds (Upper Rainbow Pond, Lower Rainbow Pond, and Powerline Meadow Pond) to create overwintering habitat and additional rearing opportunities; • The restoration and improvement of fish passage and trout spawning opportunities in the Unnamed Creek which connects Rainbow Creek and Powerline Meadow Pond; and • The restoration of fish habitat in the Philip and Munro watersheds by replacing culverts with bridges. • The fisheries compensation works projects described above won the Jake McDonald Jade Aware in 2015 at the annual BC Technical and Research Committee (TRCR) Symposium

**Description of outcome to date**

The effectiveness of these compensation projects was monitored in 2019. Three-hundred-and-sixty-eight large woody debris and boulder structures have been installed in

Rainbow Creek to date and a representative sub-set of 89 enhancement structures was assessed in 2019. Eighty of these structures achieved their structural performance objectives for stream cover and rearing. Eighty-one structures remain in sound stable condition. Water temperatures and dissolved oxygen concentrations in the ponds met the success criteria assigned two ponds did not meet the criteria for another pond. Successful revegetation of riparian areas was documented, and the pond is stable. Fish are using the ponds in both summer and winter. All fish passage restoration sites were similar to that observed in 2018 and no barriers to fish passage were noted. Riparian vegetation is established well. To date, fish presence (rainbow trout) has been confirmed at all eight sites.

**Project title**

Wildlife Crossings

**Project theme**

Threatened species

**Country/Area**

Canada

**Location**

In the area of influence of mining project

**Primary motivation**

Voluntary

**Timeframe**

Undefined

**Start year**

**End year**

<Not Applicable>

**Description of project**

In 2018 Mount Milligan engaged an external consultant to provide guidance on the construction of wildlife passages over and under the newly constructed waterline running from Phillips Lakes to Mount Milligan.

**Description of outcome to date**

Roughly 4.5 km of water pipeline was assessed for wildlife crossing locations, considering both amphibians and small and large mammals. Features that were assessed included right-of-way clearings, wetlands, wildlife tree patches, topographic features such as drainages and ridges, changes in tree structure, and areas of animal tracks. For amphibians and small mammal crossings, the 42" water line was elevated above ground with timber cribbing and spaced appropriately apart. For large mammal crossings, ramps were constructed of waste rock (NAG) and will be reclaimed with a native seed blend in 2020. The construction of the over-pipe crossing is made of mineral soil. The Phillip Lake waterline is buried under road crossings, so an additional 3 wildlife crossings were built. After construction of the crossings, monitoring during high seasonal activity times confirms that the midsized to larger mammals use the ramps for crossing. Monitoring on amphibian crossings was supplemented by a Herpetology program, which started in 2019.

F-MM14.7/F-CO14.7

**(F-MM14.7/F-CO14.7) Do your mining projects have closure plans in place?**

	Are there closure plans in place?	Comment
Row 1	Yes	Our Kumtor site has a conceptual closure plan in place. Our Öksüt mine will develop a conceptual closure plan one year after production commences. Mount Milligan annually submits its Five-Year/Conceptual Reclamation Mine and Reclamation Plan to EMPR. ] For all sites, we record appropriate (IFRS-compliant) Asset Retirement Obligations (ARO) that are reviewed regularly and annually audited with our financial statements. This is an estimate based on the risk-adjusted costs required to settle present obligations discounted using a pre-tax risk-free discount rate consistent with the time period of expected cashflows. These cash flows can represent third party or internal costs assumed for work intended to be completed in conformity with each site's agreed upon closure plan. Our AROs are approved by Centerra's executive team. Fundamentally, Centerra's closure plans address the physical and chemical stability of the mine site at closure. Centerra seeks to attain a post-closure landscape that has biodiversity equal to (or even greater than) the pre-mining conditions, with self-sustaining viable and diverse ecosystems attained. Where possible, this "net-positive impact" means that in areas where we mine, the ecosystem and biodiversity of the mining area and its broader surroundings will be in better overall condition than before the mining occurred.

F-MM14.7a/F-CO14.7a

**(F-MM14.7a/F-CO14.7a) Please provide details on mines with closure plans.**

**Row 1**

**Percentage of mines with closure plans**

33

**Percentage of closure plans that take biodiversity aspects into consideration**

100

**Is there a financial provision for mine closure expenditure?**

Yes, for all mines

**Frequency closure plans are reviewed**

Regularly (all projects)

**Please explain**

Centerra discloses the asset retirement obligation (ARO) in its financial statements by mine. Centerra has estimated the net present value of the total asset requirement obligations to be \$265.2 million as of December 31, 2019. Information regarding ARO can be found in Centerra's 2019 Annual Report, found here: <https://www.centerragold.com/cg-raw/cg/cg-annual-report-2019.pdf> Kumtor, Kyrgyz Republic In 1998, a reclamation trust fund was established to cover the future costs of reclamation, net of salvage values at Kumtor. On December 31, 2019, the fund had a balance of \$41.0 million. As outlined in the Environmental Management Action Plan (EMAP), Kumtor Gold Company is required to update the Conceptual Closure Plan (CCP) for the operation every three years, and complete a Final Closure Plan (FCP) two years prior to closure. Key changes to the 2019 CCP update include the following: • Waste Rock Dumps (WRD) configuration – dump configurations predicted at the end of mining by IGMR of Kyrgyz National Academy of Science (2017, 2019). Because of the movement on the dumps highly irregular dump surfaces will exist at closure and this CCP assumes that surface regrading will be required to blend the dumps into the surrounding topography. • New facilities - closure actions for several new facilities constructed since the 2016 CCP were incorporated. • Socioeconomic transitioning- this 2019 CCP builds on the social and socio-economic context of the Kumtor mine closure. Under regulatory and EBRD requirements, Öksüt will develop a CCP one year after the start of operations. Mount Milligan, BC Mount Milligan submitted its Conceptual Plan in November of 2019. Key updates include: • Several updates to management plans (MP), including the Emergency Response and Preparation Plan; Wildlife MP Cultural Heritage Plan; Fisheries MP; Invasive Plan MP; Landscape, Soil, and Vegetation MP; Ore and Waste Rock MP; Philip Lake Pipeline Construction Environmental MP; TSF Operational Management Strategy; Water, Seepage, and Erosion Control MP. • Reclamation activities and reclamation research plans: reviewing site preparation techniques and live staking of willow saplings.

**F-MM14.8/F-CO14.8**

**(F-MM14.8/F-CO14.8) Can you disclose the area rehabilitated (in total and in the reporting year) for each of your mining projects?**

	Disclosing area rehabilitated (in total and in the reporting year)?	Comment
Row 1	Partially	Refer to F-MM14.8a/F-CO14.3a.

**F-MM14.8a/F-CO14.8a**

**(F-MM14.8a/F-CO14.8a) Provide details on the area rehabilitated (total/reporting year) for each of your mining projects, including post-mining land use.**

**Mining project ID**

Project 1

**Total area rehabilitated (hectares)**

0

**Area rehabilitated in the reporting year (hectares)**

0

**Describe post-mining land use**

Currently, there has been no progressive reclamation completed at Kumtor. Closure and land use objectives of Kumtor: • Materially comply with regulatory requirements; • Minimize residual environmental impacts; • Ensure mine site features are geotechnically stable; • Ensure the protection of public health and safety; • Return the land to suitable post-mining land use; • Identify and mitigate social risks/impacts on the community, the business, and the overall success of the closure process.

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**Mining project ID**

Project 2

**Total area rehabilitated (hectares)**

101.2

**Area rehabilitated in the reporting year (hectares)**

34

**Describe post-mining land use**

Since construction began in 2012, Mount Milligan has reclaimed land through recontouring, seeding/planting, fertilization, and revegetation. As of December 2018, 6.5 hectares of land has been recontoured, 32.4 hectares have been seeded/planted, 28.3 hectares have been fertilized, and 0 hectares have been revegetated. In 2019, 34 hectares of land has been reclaimed. The end land use objectives for the reclaimed Mt. Milligan Mine are wildlife, recreation, and reestablishment of opportunities for traditional use of the land by Indigenous groups. Recreation opportunities expected after reclamation activities include the following: • Improved safety access to the area by the upgraded Rainbow Forest Service Road (FSR) • Access to reclaimed areas that provide wildlife habitat and contain native vegetation species (i.e., opportunities for activities such as hiking, wildlife viewing, and plant harvesting) • Continued use of Rainbow Creek for fishing • Hunting opportunities on the former mine site At Mount Milligan, land has been reclaimed progressively as it has become available. In 2019, Mount Milligan completed reclamation work on approximately four hectares of the south facing slope of the tailings dam. During the 2019 growing season, Twin Sisters Native Plant Nursery of Moberly Lake BC, grew about 5,040 Sitka alder and 2,000 fireweed seedlings for planting in a portion of the tailings dam slope in 2020. The remaining portion was allocated towards the reclamation trial area. Reclamation research trials began in 2019 with the spring planting of willow stakes within 12 plots across three trial blocks and the measurement of stake survival following the first growing season. As part of Mount Milligan's five-year reclamation plan, ongoing collaboration with First Nations groups on research trials will continue, with the focus being on species selection for continued seeding and sampling of native species, surface preparation and treatments, and follow-up effectiveness monitoring.

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**Mining project ID**

Project 3

**Total area rehabilitated (hectares)**

0

**Area rehabilitated in the reporting year (hectares)**

0

**Describe post-mining land use**

Öksüt was in construction during 2019. In early 2020, operations have commenced but construction has not yet been completed, as such, there has been no reclamation completed yet. As per the Environmental and Social Impact Assessment, rehabilitation/restoration measures will include: • Topsoil separately stored at the site and used for progressive restoration and rehabilitation after the closure of the mine. Topsoil will be stored in accordance with the provisions of the Regulation on the Control of Excavation Soil and Construction and Demolition Waste (2004) and the conditions in the Forest Rehabilitation Plan; • Progressive restoration of areas cleared during construction but not subjected to the placement of permanent facilities (e.g. laydown areas, pipeline route) will occur, with the goal of producing a stable vegetative cover to minimize erosion, dust, and spreading of invasive alien species. The restoration of these areas is also expected to produce positive direct effects on local flora, fauna, and habitats. • Progressive restoration and rehabilitation of areas disturbed during construction and also during exploration phase will focus on the reforestation of suitable areas not subjected to the placement of permanent facilities using tree species typical of "Irano-Anatolian steppe Quercus woods" (for threatened habitats) The post-mining land use objectives are to: • Return as much land as possible back to its original state and usage by rehabilitating, constructing engineered soil, replanting, and reseedling of disturbed areas • Minimize risks to the environment • Minimize safety risks to local communities by removing and safely disposing of all surface infrastructure and wastes, chemicals, reagents, and materials from the EIA permitted area • Implement a long-term post-closure monitoring program to ensure stable and safe landforms are left behind

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## F15 Engagement

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### F-MM15.1/F-CO15.1

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**(F-MM15.1/F-CO15.1) Do you participate in or endorse any of the following global initiatives?**

	Participate or endorse?	Comment
Extractive Industries Transparency Initiative	Yes	Centerra has played an active role in promoting the Extractive Industries Transparency Initiative ("EITI") in the Kyrgyz Republic. The Company's mine in the Kyrgyz Republic were among the first to sign on, report and help improve EITI infrastructure. Centerra joined EITI as a Supporting Company in 2011. The EITI Report on the Kyrgyz Republic, 2015-2017, can be found here: <a href="https://eiti.org/files/documents/en_2015-2017_eiti_report_kyrgyz_republic.pdf">https://eiti.org/files/documents/en_2015-2017_eiti_report_kyrgyz_republic.pdf</a>
UN Global Compact	No	
Natural Capital Coalition	No	
Business and Biodiversity Pledge	No	
New York Declaration on Forests	No	

**F-MM15.2/F-CO15.2**

**(F-MM15.2/F-CO15.2) Do you participate in or support industry-led and/or standards-setting initiatives and organizations promoting sustainability in the mining sector?**

	Participating or supporting industry-led and/or standards-setting initiatives?	Comment
Row 1	Yes	Refer to F-MM15.2a/F-CO15.2a.

**F-MM15.2a/F-CO15.2a**

**(F-MM15.2a/F-CO15.2a) Indicate the initiatives and/or organizations you took part in or supported during the reporting year.**

Activities	Initiatives	Comment
Industry-led mining sustainability initiative/organization	Other industry-led initiative, please specify (World Gold Council)	Site-specific activities are guided by the requirements set out by international standards and frameworks that Centerra has adopted. Centerra is a member of the World Gold Council (WGC), participates in the WGC ESG Taskforce, and is aligned to the WGC's Responsible Gold Mining Principles (RGMP). The RGMPs is a comprehensive framework of best environmental, social and governance principles that provide clear expectations for consumers, investors, and the downstream supply chain as to what constitutes responsible gold mining.

**F-MM15.3/F-CO15.3**

**(F-MM15.3/F-CO15.3) Do you collaborate or engage in partnerships with non-governmental organizations to promote the implementation of your biodiversity-related goals and commitments?**

	Collaborating or partnering with non-governmental organizations?	Comment
Row 1	Yes	Kumtor Gold Company has worked with Flora & Fauna International (FFI) on several projects, a majority being initiatives for the Sarychat-Ertash Nature Reserve. In the past, FFI worked with Kumtor Gold Company to evaluate the situation, activities, and skills of employees at the Sarychat-Ertash Nature Reserve. The project also conducted baseline surveys on flora, mammals, insects, and aquatic invertebrates in 2007/8, and produced a Reserve management plan and biodiversity monitoring and anti-poaching strategies. Additional botanical and zoological surveys were carried out in 2013 with the assistance of FFI. Kumtor and FFI continue to support the SCER through fundraising and sustainability initiatives. Along with the FFI, Kumtor Gold Company has been working with the World Wildlife Fund for fundraising and sustainability initiatives for the Sarychat-Ertash Nature Reserve. In 2019 specifically, Kumtor did not directly work these groups.

**F-MM15.3a/F-CO15.3a**

**(F-MM15.3a/F-CO15.3a) Provide details on main collaborations and/or partnerships with non-governmental organizations that were active during the reporting year.**

**F-MM15.5/F-CO15.5**

**(F-MM15.5/F-CO15.5) Do you engage with other stakeholders to further the implementation of your policies concerning biodiversity?**

Yes

**(F-MM15.5a/F-CO15.5a) Provide relevant examples of other biodiversity-related engagement activities that happened during the reporting year.**

**Activities**

Other, please specify (Engaging with local universities)

**Mining project ID**

Project 1

**Please explain**

In 2019, Kumtor Gold Company continued a range of focused environmental projects aimed at improving our environmental management practices, as well as our understanding of the natural ecosystem and our impact of operations upon it. These studies involved staff of the Kumtor Environment Department working with international consultants, scientists from the Kyrgyz National Academy of Sciences, postgraduates, and specialists from the Kyrgyz National Agrarian University and other higher educational institutions of the country. Projects include: • Monitoring of glaciers and meteorological conditions on the Kumtor concession area and in the basins of the Arabel and Uchkol Rivers • Continued study of wetland facility to reduce concentrations of ammonia and heavy metals in the waste rock dump run-offs and the ETP discharge • Continued research into appropriate rehabilitation techniques for disturbed lands, including the expansion of rehabilitation trial plots and development of strategies to increase storage life and viability of stripped topsoil • A variety of fauna surveys and hydrobiological researches within the Kumtor concession area including observations of the population of Marco Polo sheep, mountain goats, wolves, and foxes

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**Activities**

Engaging with indigenous peoples

**Mining project ID**

Project 2

**Please explain**

In August and September of 2019, Mount Milligan Mine collaborated with members of two Indigenous groups, Takla Nation and Nak'azdli Whut'en, for a native seed collection project. Members of the group collected berries and seeds from seven shrub species and one herb species at four general locations in the vicinity of the mine. The seed collection is part of Mount Milligan's reclamation plan to revegetate the area, which includes identifying native tree, shrub, and herbaceous species for use during reclamation; identifying plant communities targeted for use during reclamation of the Mine, and implementing a vegetation monitoring program which will be used to evaluate the success of revegetation treatments.

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**Activities**

Funding research organizations

**Mining project ID**

Project 1

**Please explain**

In 2019, Kumtor Gold Company continued funding the glacier research covering the glaciers within and outside the Kumtor concession area. In 2019, the Kyrgyz Institute of Water Problems and Hydropower (IWPH) of the KR National Academy of Sciences continued 2014-2018 research and based on the approved by both parties expanded glacier and hydrometeorological monitoring program covering Kumtor concession area. The monitoring program aims to assess natural (due to global warming) and technogenic (caused by the Kumtor mine activities) factors affecting the shrinkage of glaciers in the Kumtor concession area. The shrinking of glaciers will have medium- and long-term impacts on the amount of meltwater discharged to downstream watercourses, the size of the glacial ecosystem (hosting microorganisms, planktons, bacteria, etc.).

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**Activities**

Engaging with local communities

**Mining project ID**

Project 3

**Please explain**

In 2019, at Öksüt Mine, 1000 oak trees and 2000 lavender plants were planted, which involved the Kayseri Regional Directorate of Forestry, and local community members.

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**F16 Verification**

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**F-MM16.1/F-CO16.1**

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**(F-MM16.1/F-CO16.1) Do you verify any biodiversity-related information reported in your CDP disclosure?**

In progress

**F17 Signoff**

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**F-FI**

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**(F-F) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.**

*Information contained in this response which are not statements of historical facts, and the documents incorporated by reference herein, may be "forward-looking information" for the purposes of Canadian securities laws. Such forward-looking information involves risks, uncertainties and other factors that could cause actual results, performance, prospects and opportunities to differ materially from those expressed or implied by such forward looking information. The words "believe", "expect", "anticipate", "contemplate", "plan", "intends", "continue", "budget", "estimate", "may", "will", "schedule", "understand" and similar expressions identify forward-looking information. These forward-looking statements relate to, among other things: potential biodiversity impacts of the potential risks and opportunities identified, as set out in the responses, mitigation strategies, plans for site reclamation, plans for the development of internal standards, community development projects, certifications, including the International Cyanide Management Code, and plans / commitments under any frameworks like the Responsible Gold Mining Principles.*

*Forward-looking information is necessarily based upon a number of estimates and assumptions that, while considered reasonable by Centerra, are inherently subject to significant political, business, economic and competitive uncertainties and contingencies. Known and unknown factors could cause actual results to differ materially from those projected in the forward-looking information.*

*There can be no assurances that forward-looking information and statements will prove to be accurate, as many factors and future events, both known and unknown could cause actual results, performance or achievements to vary or differ materially from the results, performance or achievements that are or may be expressed or implied by such forward-looking statements contained herein or incorporated by reference. Accordingly, all such factors should be considered carefully when making decisions with respect to Centerra, and prospective investors should not place undue reliance on forward looking information. Forward-looking information is as of September 30, 2020. Centerra assumes no obligation to update or revise forward looking information to reflect changes in assumptions, changes in circumstances or any other events affecting such forward-looking information, except as required by applicable law.*

**F17.1**

**(F17.1) Provide the following information for the person that has signed off (approved) your CDP forests response.**

	Job Title	Corresponding job category
Row 1	Chief Executive Officer	Chief Executive Officer (CEO)

**Submit your response**

**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

	I am submitting to	Public or Non-Public Submission
I am submitting my response	Investors	Public

**Please confirm below**

I have read and accept the applicable Terms